Updated 10/15/2026

Curriculum Vitae

Junguk Hur, Ph.D.

Current Position

Associate Professor
Department of Biomedical Sciences
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Online Profiles

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ResearchGate: https://researchgate.net/profile/Junguk_Hur
GitHub (Personal): https://github.com/windysky/
GitHub (Hur Lab): https://github.com/hurlab
Homepage: http://hurlab.med.und.edu
SMHS Labs Page: https://med.und.edu/labs/hur/

Education

Ph.D.:	Bioinformatics, University of Michigan Ann Arbor, Michigan, 2006~2010
M.S.:	Bioinformatics, Indiana University Bloomington, Indiana, 2004~2006
B.S.:	Life Science, Pohang University of Science and Technology (POSTECH) Pohang, Korea, 1994~2001
Post-doc:	Bioinformatics, University of Michigan Ann Arbor, Michigan, 2010~2015 Systems pharmacology, US Food and Drug Administration (FDA) Silver Spring, Maryland, 2013

Research interests

Bioinformatics and systems biology
Ontology-based literature mining
Artificial intelligence and machine learning in biomedical research
Neurological disorders, including diabetic neuropathy and ALS

Professional Experience

Academic appointments

Jan. 2015 ~ Jun. 2021	Assistant Professor, University of North Dakota
Mar. 2018 ~	Adjunct Research Assistant Professor, University of Michigan, Ann Arbor
Jul. 2021 ~	Associate Professor, University of North Dakota

Hospital, government, or other professional positions

Jan. 1995 ~ Apr.1995	Lab Participation at National Center for Calcium & Learning. POSTECH, Korea
Apr. 1998 ~ Jun. 2000	Military service, Korea
Feb. 2001 ~ Oct.2002	Research Scientist, Bioinformatics team, ISTECH Inc., Korea
Jun. 2003 ~ Jun.2004	Part-time Research Scientist, Bioinformatics team, ISTECH Inc., Korea

Feb. 2013 ~ Apr. 2013	ORISE Visiting Research Fellow, US Food and Drug Administration (FDA) Silver Spring, Maryland
Apr. 2017 ~	Research Without Compensation (WOC), U.S. Department of Veterans Affairs, Fargo Hospital
Aug. 2021 ~	Director, UND Computational Data Analysis Core (CDAC)
Aug. 2024 ~	Lead, UND Research Design, Compliance, and Data Management Core (RDCD)

Honors and Awards

2006-2007	Rackham Graduate Fellowship University of Michigan, Ann Arbor, Michigan
2007-2009	Program for Neurology Research and Discovery Scholarship University of Michigan, Ann Arbor, Michigan
2009-2010	Rackham Pre-Doctoral Fellowship University of Michigan, Ann Arbor, Michigan
2010	Rackham Spotlight University of Michigan, Ann Arbor, Michigan
2011-2014	Juvenile Diabetes Research Foundation Post-doctoral Fellowship Recipient

Membership in professional organizations

May. 2008 ~	International Society for Computational Biology, member
Mar. 2015 ~ Dec. 2021	American Diabetes Association, professional member
Feb. 2016 ~ Dec. 2021	American Society for Pharmacology and Experimental Therapeutics, member
Apr. 2017 ~ Dec. 2021	North Dakota Academy of Sciences, member
Mar. 2024 ~	American Medical Informatics Association, member

Major committee and service responsibilities

University

Jul. 2025 ~	UND Research IT Advisory Group (member)
Aug. 2025 ~	UND AI Collective (Co.AI) (member)
Sep. 2025 ~	UND Data Governance Council (member)

School of Medicine & Health Sciences

Aug. 2016 ~ Aug. 2019	Admissions Committee (member)
Sep. 2019 ~ Jul. 2020	Admissions Committee (vice chair)
Feb. 2020	Grievance Committee (member)
Aug. 2020 ~ Jul. 2021	Admissions Committee (chair)
Aug. 2021 ~ Jun. 2023	Admissions Committee (member)
Aug. 2023 ~ Jun. 2024	Admissions Committee (vice chair)
Jan. 2022 ~ Apr. 2022	UND LCME Accreditation – Junior Faculty Member
Aug. 2024 ~ Jun. 2025	Admissions Committee (member)
Aug. 2025 ~	Admissions Committee (member)
Feb. 2025 ~	UND SMHS Working Group on AI (member)
Jan. 2026 ~	UND SMHS AI Research and Development Subgroup (co-chair)
Jan. 2026 ~	UND SMHS AI Data Governance and Infrastructure Subgroup (member)
Jan. 2026 ~	UND SMHS Biomedical Science Department Chair National Search Committee (member)

Departmental

Aug. 2015 ~ Dec. 2017	Departmental Website Committee
Aug. 2015 ~	Epigenetics Bioinformatics (Genomics) Core (advisory board member)

Aug. 2021 ~	UND SMHS Histology Core (internal advisory committee member)
Sep. 2024 ~ Apr. 2025	UND Computational Biology Search Committee (member)
Jan. 2025	UND SMHS Geriatrics CPT Committee (member)

Inventions, intellectual property, and patents held

Patent: A System for Analyzing DNA-Chips Using Gene Ontology, and a Method Thereof, 2002, Korea

Review and Referee Work

Editorial Board

Aug. 2015 ~ Nov. 2025	Review Editor, Frontiers in Cellular and Infection Microbiology
Feb. 2018 ~	Associate Editor BMC Complementary Medicine and Therapies
May. 2019 ~	Associate Editor, Scientific Reports
Jul. 2020 ~ Dec. 2024	Topic Board Editor, International Journal of Molecular Sciences
Jun. 2023 ~	Guest Editor, Journal of Biomedical Semantics (Vaccine and Drug Ontology Studies section)
May. 2024 ~	Guest Editor, Journal of Computational Biology
Sep. 2024 ~	Guest Editor, Frontiers in Immunology, Vaccine and Infectious Disease Informatics Special Issue
Jan. 2025 ~	Guest Editor, Journal of Frontiers in Cellular and Infection Microbiology. Vaccine and Infectious Disease Informatics
Sep. 2025 ~	Guest Editor, Frontiers in Cardiovascular Medicine
Dec. 2025 ~	Associate Editor, Frontiers in Cellular and Infection Microbiology

Ad-hoc reviewer for journals

Acta Psychiatrica Scandinavica; Advances and Applications in Bioinformatics and Chemistry; Annals of the New York Academy of Sciences; Bioinformatics; BioMed Research International; Biomolecules; BMC Bioinformatics; BMC Complementary and Alternative Medicine; BMC Endocrine; BMC Neurology; Cells; Chemico-Biological Interactions; Chemistry and Biodiversity; Computational Biology and Chemistry; Computer Methods and Programs in Biomedicine; Current Diabetes Reviews; Diabetes Therapy; Diabetes, Metabolic Syndrome, and Obesity; Drug Discovery Today; European Journal of Pharmacology; Evidence-Based Complementary and Alternative Medicine; Frontiers in Cellular and Infection Microbiology; Frontiers in Microbiology; Frontiers in Neuroinformatics; Frontiers in Pharmacology; Genomics, Proteomics, and Bioinformatics; Gerontology; International ImmunoPharmacology; International Journal of Genomics; International Journal of Medical Sciences; iScience; Journal of Affective Disorders; Journal of Diabetes and Complications; Journal of Diabetes Research; Journal of Educational Evaluation for Health Professions; Journal of Functional Food; Journal of Microbiology; Journal of Molecular Endocrinology; Journal of Pain Research; Journal of Pharmaceutical and Biomedical Analysis; Pharmacogenomics; Processes; Research Square ; Scientific Reports; Therapeutic Advances in Chronic Disease; Scientific Data; Gene; Science of the Total Environment; Journal of Alzheimer's Disease; Heliyon; Applied Ontology; Drug Safety; Annals of Neurology; Journal of Biomedical Semantics; Journal of Computational Biology; …

Ad-hoc reviewer for conference proceedings

Sep. 2014	2014 Conference of Technologies and Applications of Artificial Intelligence
Jul. 2019	The 3rd International Conference on Biological Information and Biomedical Engineering
Jun. 2022	The 13th International Conference on Biomedical Ontology (ICBO-2022)
Dec. 2022	The 14th International Conference on Bioinformatics Models, Methods and Algorithms
Dec. 2023	The 15th International Conference on Bioinformatics Models, Methods and Algorithms
May 2024	American Medical Informatics Association (AMIA) 2024 Annual Symposium

May 2024	The 15th International Conference on Biomedical Ontology (ICBO-2024)
Oct. 2024	American Medical Informatics Association (AMIA) 2025 Informatics Summit
Nov. 2024	The 16th International Conference on Bioinformatics Models, Methods and Algorithms
Apr. 2025	American Medical Informatics Association (AMIA) 2025 Annual Symposium
Sep. 2025	The International Conference on Biomedical Ontology (ICBO-2025)
Dec. 2025	American Medical Informatics Association (AMIA) Informatics Summit
Mar. 2026	American Medical Informatics Association (AMIA) 2026 Annual Symposium

Ad-hoc reviewer for grants

Jul. 2016	Diabetic Complications Consortium pilot grant
Jul. 2016	Department of Defense (DoD) Peer Reviewed Medical Research Program
Nov. 2016	Early Career Reviewer (ECR) program at the Center for Scientific Review (CSR)
Oct. 2017	National Science Foundation (NSF) reviewer
Dec. 2017	DoD PRMRP Full application reviewer
Aug. 2018	DoD PRMRP Pre-application reviewer
Oct. 2018	National Institute of Health (NIH) CNNT Study Section reviewer
Mar. 2019	DoD PRMRP preliminary reviewer
May. 2020	DoD PRMRP preliminary reviewer
Jul. 2021	DoD PRMRP panel reviewer
Jul. 2021	UK Research and Innovation (UKRI) reviewer
May. 2022	UND BIMD518 Spring 2022. Student grant review
Dec. 2022	Motor Neuron Disease Association reviewer
Dec. 2022	UND BIMD518 Fall 2022. Student grant review
Mar. 2023	NIH PAR Panel: Biomedical Data Repositories and Knowledgebases
Jun. 2023	NIH PAR Panel: Biomedical Data Repositories and Knowledgebases
Dec. 2023	UND BIMD518 Fall 2023. Student grant review
Mar. 2024	NIH PAR Panel: Biomedical Data Repositories and Knowledgebases
Jun. 2024	NIH PAR Panel: Biomedical Data Repositories and Knowledgebases
Oct. 2024	NIH PAR Panel: P30 Cystic Fibrosis Research and Translation Centers
Feb. 2025	NIH PAR Panel: Biomedical Data Repositories and Knowledgebases
Mar. 2025	National Science Centre (Poland)
Jun. 2025	NIH PAR Panel: Biomedical Data Repositories and Knowledgebases
Nov. 2025	UND TRANSCEND grant review
Jan. 2026	PAR Panel: Resource Program Grants in Bioinformatics, Biomedical Imaging and Bioengineering (P41)
Mar. 2026	NIH PAR Panel: Biomedical Data Repositories and Knowledgebases
Jun. 2026	NIH Molecular Neurogenetics Study Section
Mar. 2026	NIH ZRG1 BCTC-B (50) Special Emphasis Panel
Oct. 2026	NIH ZRG1 BCTC-B (50) Special Emphasis Panel

Ad-hoc faculty review

May 2023	Tenure application (Assistant to Associate). Arab American University
Jul. 2024	Promotion application (Associate to Full Research Scientist). U of Michigan

Teaching Activities

Courses

Sep. 2004 ~ Dec. 2004	INFO692, Graduate Capstone Project for Bioinformatics (Associate Instructor, Indiana University)
Jan. 2005 ~ Apr. 2005	INFO590, Introduction to genomics for non-biology students (Associate Instructor, Indiana University)

Sep. 2005 ~ Dec. 2005	BIOL519, Bioinformatics Theory and Application (Associate Instructor, Indiana University)
Jan. 2008 ~ Apr. 2008	BIOINFO 800.006-008, Introduction to Bioinformatics (Graduate Student Instructor, University of Michigan)
Aug. 2016 ~ Dec. 2016	BMB540 Special Topics: Foundations of Bioinformatics for Biology and Biomedical Graduate Students (2 credits; UND)
Aug. 2017 ~ Dec. 2025	BIMD514 Bioinformatics (3 credits; UND; 8 offerings: 2017, 2019-2025)
Jan. 2018 ~ May 2018	BIMD494 Directed Studies – Bioinformatics (1 credit; UND)
Mar. 2024	BIMD502 Module 4 (1 lecture; UND)
Mar. 2025	BIMD502 Module 4 (1 lecture; UND)
Mar. 2026	BIMD502 Module 4 (1 lecture; UND)

Patient-Centered Learning (PCL) Facilitation (UND)

Jan. 2018 ~ Mar. 2018	PCL Block 3 Facilitation – Class of 2021 (M.D.)
Jan. 2019 ~ Mar. 2019	PCL Block 3 Facilitation – Class of 2022 (M.D.)
Jan. 2020 ~ Mar. 2020	PCL Block 3 Facilitation – Class of 2023 (M.D.)
Oct. 2020 ~ Dec. 2020	PCL Unified Session Block 3 Facilitation – Class of 2024 (M.D.)
Nov. 2021 ~ Jan. 2022	PCL Pre-Unit 3 Facilitation – Class of 2025 (M.D.)
Nov. 2022 ~ Jan. 2023	PCL Unit 3 Facilitation – Class of 2026 (M.D.)
Sep. 2023 ~ Nov. 2023	PCL Unit 2 Facilitation – Class of 2027 (M.D.)
Sep. 2024 ~ Nov. 2024	PCL Unit 2 Facilitation – Class of 2028 (M.D.)
Feb. 2026 ~ Mar. 2026	PCL Unit 4 Facilitation – Class of 2029 (M.D.)

Advising – Post-doctoral fellows (UND)

Nov. 2016 ~ Jul. 2022	Dr. Kai Guo (joint with UM Dr. Eva Feldman)
Nov. 2016 ~ Dec. 2017	Dr. Guillermo de Anda Jauregui
Aug. 2018 ~ Aug. 2022	Dr. Atrayee Ray (co-mentored with Drs. Dhasarathy and Brissette)
Sep. 2019 ~ Feb. 2022	Dr. Brett McGregor
Mar. 2020 ~ Jul. 2023	Dr. MD Obayed Raihan (co-mentored with Dr. Porter)

Advising – Visiting scholar (UND)

Nov. 2019 ~ Aug. 2021	Dr. Ling Li (Guangzhou First People's Hospital, China; joint with Dr. Xusheng Wang at UND Biology)
Sep. 2022 ~ Dec. 2022	Ms. Hasin Rehana (University of Dhaka)
Sep. 2022 ~ Dec. 2025	Ms. Christianah Jemiyo (National Assembly Budget & Research Office (NABRO))
Sep. 2023 ~	Dr. Kai Guo (Research Assistant Professor at UM)
Dec. 2023 ~ Dec. 2025	Ms. Fang Huang (Chongqing Medical University, Ph.D. Student)

Advising – Students

Oct. 2010 ~ Jan. 2013	George Zhao (mentor for M.S.), University of Michigan (UM)
May. 2015 ~ May 2019	Brett A. McGregor (co-chair of FAC), UND Biomedical Sciences Ph.D.
Nov. 2015 ~ Jul. 2019	Peter Halcrow (member of Ph.D. FAC), UND Biomedical Sciences Ph.D.
Oct. 2015 ~ May 2016	Dakota Krout (advisor), UND Computer Sciences undergraduate
May 2016 ~ May 2018	Larson Danes (advisor for co-op), UND Computer Sciences undergraduate
Jun. 2016 ~ Jul. 2020	Derick Thompson (member of FAC), UND Biomedical Sciences Ph.D.
Jun. 2017 ~ May 2021	Leo Lakpa (member of FAC), UND Biomedical Sciences Ph.D.
Oct. 2017 ~ Jul. 2021	Smruthi Rudraraju (member of FAC), UND Biomedical Sciences Ph.D.
Nov. 2018 ~ May 2022	Sayem Bhuiyan (member of FAC), UND Biomedical Sciences Ph.D.
Apr. 2019 ~ May 2022	Joanna Handzlik (member of FAC), UND Biology Ph.D.
Jan. 2020 ~ Jul. 2021	Temidayo Adeluwa (chair of FAC), UND Biomedical Sciences M.S.
Aug. 2020 ~ Dec. 2021	Malak Alzidaneen (member of FAC), UND Biomedical Sciences M.S.

Mar. 2021 ~ Jul. 2024	Abiodun Ebenezer Odufuwa (member of FAC), UND Biomedical Sciences Ph.D.
Sep. 2021 ~ Oct. 2021	Oluwatobiloba Aminu, Darius Quansah (Laboratory rotation), UND Biomed
Nov. 2021 ~ Jan. 2022	Anna Corradi (Laboratory rotation), UND Biomed
Jan. 2022 ~ Aug. 2023	Oluwatobiloba Aminu (chair of FAC), UND Biomedical Sciences, M.S.
Jan. 2022 ~ Aug. 2023	Dehui Kong (member of FAC), UND Biology Ph.D.
Jan. 2022 ~	Blessing Okosun (member of FAC), UND Biology Ph.D.
Aug. 2022 ~ Aug. 2026	Sakuntha Gunarathna (member of FAC), UND Biomedical Sciences, Ph.D.
Jan. 2023 ~	Hasin Rehana (chair of FAC), UND Computer Sciences, Ph.D.
Aug. 2023 ~ Spring 2025	Mostafa Elhennawy (member of FAC), UND Biomedical Sciences, Ph.D.
Jun. 2023 ~ Feb. 2026	Sarah Hong (Research mentor; remote), Columbia University. Undergraduate.
Dec. 2023 ~	Akhtar Hussain (member of FAC), UND Computer Science Ph.D.
Jan. 2024 ~ Mar. 2024	Goshen Miteu (Laboratory rotation), UND Biomedical Sciences, Ph.D.
Feb. 2024 ~ May 2024	Michelle Murphy (Laboratory rotation), UND Biomedical Sciences, Ph.D.
Feb. 2024 ~ May 2025	Benu Bansal (chair of FAC), UND Biomedical Engineering, Ph.D.
Mar. 2024 ~	Davis Payne (chair of FAC), UND Biomedical Engineering, Ph.D.
Apr. 2024 ~	Behnaz Karimialiabadi (chair of FAC), UND Biomedical Sciences, Ph.D.
Apr. 2024 ~	Kelsey Klinger (member of FAC), UND Counseling Psychology, Ph.D.
May 2024 ~	Hakan Celik (member of FAC), UND Biomedical Engineering, Ph.D.
May 2024 ~ Dec. 2025	Jane Kim (Research mentor; remote), Chadwick International High School, Korea
Jul. 2024 ~	Mohammad Abuabdoh (member of FAC), UND Biomedical Engineering, Ph.D.
Feb. 2025 ~ Apr. 2025	Nobuki Hida (Laboratory rotation), UND Biomedical Sciences, Ph.D.
Feb. 2025 ~ Apr. 2025	Justice Paintsil (Laboratory rotation), UND Biomedical Sciences, Ph.D.
Jan. 2025 ~	Frances Kujawski (member of FAC), UND Biology, Ph.D.
Feb. 2025 ~	Arhita Das (member of FAC), UND Biology, Ph.D.
Aug. 2025 ~	Sayed Asaduzzaman (chair of FAC), UND Computer Science, Ph.D.
Oct. 2025 ~	Timothy Ayeni (chair of FAC), UND Biomedical Sciences, Ph.D.
Mar. 2026 ~	Francisco Mimica Porras (chair of FAC), UND Computer Science, Ph.D.
Apr. 2026 ~ Aug. 2026	Nobuki Hida (member of FAC), UND Biomedical Sciences, Ph.D.
Jun. 2026 ~	Patience Toro (research participation), UND
Jul. 2026 ~	Büşra Oğuzoğlu (co-supervisor with Dr. Arzucan Özgür), Boğaziçi University, Turkey. Computer Engineering, Ph.D.

Grant

Current - External

1. NIH/NIAID U24 U24AI171008 (MPIs: Tao, He, Hur)
   Role: MPI Total: $706,101 (UND) (7/1/2022-5/31/2027)
   Title: VIOLIN 2.0: Vaccine Information and Ontology LInked kNowledgebase
   Note: Development of literature mining and natural language processing platform for vaccine information research platform.
2. NIH/NIAID U24 3U24AI171008-05S1 (MPIs: Tao, He, Hur)
   Role: MPI Total: $119,864 (UND) (7/1/2026-5/31/2027)
   Title: Administrative Supplement: VIOLIN 2.0: Vaccine Information and Ontology LInked kNowledgebase
   Note: Administrative supplement to the VIOLIN 2.0 U24 award.
3. NIH/NIDDK R01 2R01DK130913-05 (MPIs: Feldman, Hur)
   Role: MPI Total: $1,309,079 (UND) (9/1/2026-5/31/2031)
   Title: Schwann Cell Senescence and the Secretome Provide a Unifying Mechanism for the Onset and Progression of Diabetic Neuropathy Note: Renewal awarded 9/2026; first budget period 9/1/2026-5/31/2027.
4. ARPA-H (PI: Tavakolian)
   Role: Co-Investigator Total: $19,954,800 (8/22/2025-8/21/2028)
   Title: Decentralized Diabetes Data Platform for Senior Health Management
   Note: Lead the analytics team for data analysis and predictive modeling.

5. NIH/NIDDK R01 1R01DK149012-01 (PI: Rumora; Columbia University)
   Role: Co-Investigator (Site PI) Total: $154,979 (UND) (7/1/2026-6/30/2028)
   Title: Lipids and inflammation in peripheral neuropathy and metabolic syndrome
   Note: Awarded 9/2026.
6. NIH/NIGMS P30 1P30GM165332-01 (MPIs: Bradley & Brissette)
   Role: Core Director Total: $5,287,500 (UND) (7/1/2026-6/30/2031)
   Title: Center for Excellence in Host Pathogen Interactions (HPI COBRE) Phase 3
   Note: Director of the Computational Data Analysis Core (CDAC).
7. NIH/NIGMS P20GM155890 CTR (PI: Schwartz)
   Role: Core Lead Total: $10,774,235 (7/1/2024-6/30/2029)
   Title: Translational Science Engaging North Dakota (TRANSCEND)
   Note: Lead, Research Design, Compliance & Data Management Core (RDCDC).

Pending - External

1. NIH/NIA R01 1R01AG098572-01A1(PI: Lyssenko; Temple University) (submitted in 3/2026)
   Role: Co-Investigator Total: $420,080 (UND) (12/1/2026-11/30/2031)
   Title: Omics signatures and Abeta/tau stage of low ABCA7 in Alzheimer's
   Note: Reapplication. 11th percentile. Just-in-Time information submitted in 8/2026.
2. NIH R01 (MPIs: He, Wu, Hur) (submitted in 6/2026)
   Role: MPI Total: $1,115,350 (UND) (4/1/2027-3/31/2032)
   Title: HPI-AI: AI-Powered Host-Pathogen Interaction Data Standardization, Integration, and Analysis
3. NIH R01 (MPIs: Boison, Kim, Jang, Hur; Rutgers University) (submitted in 6/2026)
   Role: MPI Total: $885,351 (UND) (4/1/2027-3/31/2032)
   Title: Common Pathways of Brain Injury-Induced Pathology
   Note: UND team leads integrative multi-omics bioinformatics and cross-injury meta-analyses.
4. NIH/NIMH R01 (PI: Yong Kim; Rutgers University) (submitted in 6/2026)
   Role: Co-Investigator (Site PI) Total: $196,263 (UND) (4/1/2029-3/31/2032)
   Title: A Novel Autism Gene Governing Key Molecular Networks in Neurodevelopment
5. NIH R01 (PI: Mathur) (submitted in 6/2026)
   Role: Co-Investigator Total: $3,381,085 (4/1/2027-3/31/2032)
   Title: Microglial Mitochondrial Stress Signaling as a Driver of Inflammaging and Neurodegeneration
6. NIH R01 (PI: Mathur) (submitted in 6/2026)
   Role: Co-Investigator Total: $3,434,246 (4/1/2027-3/31/2032)
   Title: Receptor Glycosylation as a Determinant of Signal Interpretation and Cell Fate in Aging and Colon Cancer
7. NIH R21 (PI: Ti Lu; University of Missouri) (submitted in 7/2026)
   Role: Co-Investigator (Site PI) Total: $50,531 (UND) (4/1/2027-3/31/2029)
   Title: Early-life Diet Shapes the Gut Microbiome and Vaccine Responsiveness
8. CDMRP ERP EP260072P1 (MPIs: Boison, Hur; Rutgers University) (submitted in 8/2026)
   Role: Partnering PI Total: $585,683 (UND) (10/1/2027-9/30/2030)
   Title: Convergent mechanisms of post-traumatic epilepsy
   Note: DoD CDMRP Epilepsy Research Program Research Partnership Award.
9. NIH/NIAID R01 2R01AI143741(PI: Khan; University of Florida) (submitted in 7/2026)
   Role: Co-Investigator (Site PI) Total: $250,247 (UND) (4/1/2027-3/31/2032)
   Title: Pathogenic Role of IL-17 Response in S. pneumoniae Nasopharyngeal Pathogenesis During Influenza Co-infection
   Note: Renewal resubmission.

Completed - External

1. Juvenile Diabetes Research Foundation, Postdoctoral Research Fellowship Grant

Role: Project PI Total: $136,620 (3/1/2011-6/30/2014)
Title: Cross-tissue transcriptomics predict diabetic complications

2. Diabetic Complication Consortium, Pilot & Feasibility Grant
   Role: Project PI Total: $89,537 (10/2015-1/2017)
   Title: Comparative Transcriptomics to Identify Key Gene Networks of Diabetic Neuropathy Note: Generating and analyzing RNA-Seq of human sural nerve samples obtained from diabetic neuropathy (DN) patients to identify critical gene regulatory networks of DN.
3. NIDDK 1R24DK082841 (MPIs: Feldman et al., U of Michigan)
   Role: Co-investigator Total: $437,458 (UND) (4/2017-7/2021)
   Title: Integrated systems biology approach to diabetic microvascular complications Note: My role involves bioinformatics analysis on diabetic complications-related high-throughput Omics data to identify critical genes and pathways, responsible for the development of diabetic complications.
4. NINDS R01 5R01NS120926 (MPI: Goutman & Murdock at University of Michigan)
   Role: Co-investigator Total: $49,852 (UND) (4/2023-3/2024 UND)
   Title: Creating a foundation for personalized age- and sex-based immune-targeted therapies from an ALS longitudinal cohort by identifying peripheral and central immune signatures.
5. NINDS R01 5R01NS065957 (PI: Susan Masino, Trinity University)
   Role: Co-investigator Total: $2,254,373 (6/2018-6/2024)
   Title: Ketogenic diet and adenosine: epigenetics and antiepileptogenesis
   Note: My role focuses on bioinformatics analyses of the high-throughput next-generation sequencing data (transcriptomics and methylomics) from animal models of epileptogenesis with/without two treatments.
6. NIGMS P20 5P20GM113123 COBRE (MPIs: Bradley & Brissette)
   Role: Core Director Total: $778,850 (Core) (7/1/2021-6/30/2026)
   Title: Center for Excellence in Host Pathogen Interactions (HPI COBRE) Note: Established and directed the Computational Data Analysis Core (CDAC).
8. NIH/NIDDK R01 R01DK130913 (MPIs: Feldman, Hur)
   Role: MPI Total: $986,024 (UND) (8/23/2022-9/30/2026)
   Title: Metabolic coupling between Schwann cells and axons is functionally distinct from myelination and is disrupted in obesity, prediabetes, and diabetes
   Note: Ended 9/2026; UND subaward replaced by renewal 2R01DK130913-05.

<u>Completed - Internal</u>

1. UND COBRE Epigenomics and Development and Disease, Pilot Grant
   Role: Project PI Total: $42,347 (10/2015-5/2016)
   Title: RNA-Seq and Comparative Transcriptomics to Identify Key Gene Networks of Diabetic Neuropathy
   Note: The award was used to perform high-throughput DNA-methylation sequencing analysis of sural nerves collected from diabetic neuropathy patients.
2. UND Neuroscience COBRE Pilot Grant
   Role: Project PI Total: $40,000 (9/2016-5/2017)
   Title: Cross-center validation study for epigenetic changes associated with epileptogenesis
   Note: The support was for next-generation sequencing service (RNA-Seq & RRBS) of rat hippocampus samples collected during epileptogenesis.
3. UND Post-doctoral Pilot Funding Program
   Role: PI Total: $120,000 (7/2016-6/2018)
   Title: Epigenetics for anti-epileptogenic therapy
   Note: Salary and benefits support for a post-doctoral associate (Dr. Kai Guo) for two years. The project is to examine the epigenetic/transcriptomic changes during epileptogenesis by generating/analyzing next-generation sequencing data (RNA-Seq & RRBS).
4. UND COBRE Epigenomics and Development and Disease, Pilot Grant
   (MPIs: Porter and Hur)
   Role: Co-PI Total: $30,000 (10/2017-05/2019)

Title: Epigenetic modification of microglial phenotype in Parkinson's Disease
Note: The grant support is for high-throughput next-generation sequencing for gene expression (RNA-Seq) and methylation (RRBS) of microglia obtained from an animal model of Parkinson's disease.

5. UND Health Challenge Seed Program (MPIs: Dhasarathy, Hur & Scheidegger)
   Role: Co-PI Total: $50,000 (10/2017-05/2018)
   Title: Transcription proteins and mRNA splicing: a novel molecular mechanism influencing cancer progression
   Note: This seed grant is to examine the novel mechanism of the RNA-binding feature of cancer progression-related transcription factor SNAIL. My role is to analyze high-throughput sequencing data analysis using bioinformatics approaches.
6. UND Post-doctoral Pilot Funding Program (MPIs: Brissette, Dhasarathy, and Hur)
   Role: Co-PI Total: $129,600 (UND) (7/2018-6/2020)
   Title: Exploring epithelial-to-mesenchymal transitions in Lyme arthritis through a systems approach
   Note: Salary and benefits support for a post-doctoral associate for two years, who will work on a project to investigate the role of epithelial-to-mesenchymal transition in Lyme arthritis.
7. UND COBRE Host-Pathogen Interaction, Pilot Grant
   Role: PI Total: $25,000 (7/2019-4/2020)
   Title: Development of ontology-based literature mining system for host-pathogen interactions Note: This grant supports to development of a literature-mining platform to support the identification and mining of host-pathogen gene interactions from biomedical literature.
8. UND Epigenetics COBRE Pilot (MPI: Porter & Hur)
   Role: Co-PI Total: $30,000 (12/2019-5/2020)
   Title: Epigenetic modifications of microglial phenotypes in α-synucleinopathy disorders
   Note: My role focuses on bioinformatics analysis of transcriptomic and epigenetic data.
9. UND Post-doctoral Pilot Funding Program (MPIs: Porter & Hur)
   Role: Co-PI Total: $129,600 (1/2019-12/2021)
   Title: Alpha-Synuclein-mediated epigenomic modification of microglial neuroinflammatory profiles during the Progression of Parkinson's Disease from Early to Advanced Stages
10. NIAID R01 1R01AI143741 (PI: Khan) (12/2019-12/2021)
    Role: Co-investigator Total: $1,780,000
    Title: Pathogenic role of IL-17 response in Streptococcus pneumoniae nasopharyngeal pathogenesis during an influenza virus co-infection
    Note: My role focuses on bioinformatics analyses of high-throughput sequencing data.
11. UND COBRE Epigenetics Pilot Grant
    Role: Co-PI Total: $50,000 (10/2021-5/2022)
    Title: Correlated Epigenetic and Behavioral Modifications in α-Synucleinopathy Disorders
12. UND Epigenomics COBRE Pilot (MPI: Hur and Porter)
    Role: MPI (contact) Total: $40,000 (7/1/2023-6/30/2025)
    Title: Spatial pattern of microglial transcriptomic response to α-Synuclein overexpression in Thy1-αSynuclein mice
    Note: No cost extension
13. UND SMHS Pilot Grant (MPI: Dhasarathy, Brissette)
    Role: Co-Investigator Total: $50,000 (8/1/2024-7/31/2025)
    Title: Deciphering transcriptional and epigenetic priming mechanisms contributing to refractory Lyme disease

Academic Consultant role

1. BD2K-LINCS DCIC External Research Project
   PI: Yongqun He, Ph.D. University of Michigan (2016-2018)
   Title: Ontology-based Cell Line Standardization, Integration, and LINCS Application
2. NIH R01 DA042156
   PI: Lucia Carvelli, Ph.D. (2016-2017)

Title: Amphetamine-induced trans-generational effects

3. CDC
   PI: Eva Feldman, M.D., Ph.D., University of Michigan (2018-2021)
   Title: Metabolomic Signatures Linking ALS to Persistent Organic Pollutant Exposures.
4. NSF
   PI: Henry Neeman, Ph.D., University of Oklahoma (2018-2022)
   Title: Acquisition of a Regional Resource for Long-term Archiving of Large-Scale Research Data Collections
5. NIH K99/R00
   PI: Amy Rumora, Ph.D., University of Michigan (2018-2022)
   Title: Sphingolipid and Fatty Acid Biology in Prediabetes and Neuropathy
6. NIH/NIEHS R01 ES030049
   PIs: Drs. Feldman & Batterman (U of Michigan) (2020-2024)
   Title: Mapping the ALS Exposome to Gain New Insights into Disease Risk and Pathogenesis
   Goal: To collect data that will offer a foundation to uncover key pathways and mechanisms linked to exposure-induced changes that may represent novel biomarkers and therapeutic targets, ultimately supporting the development of much-needed treatment options for ALS.
7. NIH/NIDDK K99/R01
   PI: Sarah Elzinga, U of Michigan (2023-2027)
   Title: Obesity and prediabetes-mediated neuroinflammation and cognitive decline: Identifying mechanism-based therapeutic targets and therapeutic windows
8. NIH Transformative grant ALS^2 (PI: Eva Feldman, U of Michigan) (2021-2026)
   Title: Developing novel strategies for personalized treatment and prevention of ALS: Leveraging the global exposome, genome, epigenome, metabolome, and inflammasome with data science in a case/control cohort
9. NIH/NIDDK K01
   PI: Stephanie Eid, U of Michigan (2023-2027)
   Title: NADPH Oxidases Nox4 and Nox5 are New Therapeutic Targets for Peripheral Neuropathy
10. Department of Defense (submitted 6/2024)
    PI: Eva Feldman, U of Michigan (2025-2029)
    Title: Whole blood transcriptomics identifies new gene expression signatures that provide personalized biomarkers in ALS
11. NIH R01 (submitted 2/2025)
    PI: Eva Feldman, U of Michigan (2025-2030)
    Title: Transcriptomics of blood samples in ALS: An untapped resource to advance diagnosis, prognosis, and drug discovery and to gain insights into the diverse molecular subtypes of disease
12. TRANSCEND Pilot Project Mentor
    PI: Corellius Dyke (Sanford) (7/2025-6/2026)
    Title: Transcatheter Aortic Valve Replacement (TAVR) Outcomes Study: Clinical Outcomes after Transcatheter and Surgical Aortic Valve Replacement
    Note: Mentoring on AI/ML application

Paid Consulting Activity

1. YooJinBioSoft Co., Ltd., South Korea (01/2023-12/2028)
   Role: paid consultant
   Topic: drug repurposing
2. Inha University (PI: Dr. Dayeon Shin) (06/2024-02/2025)
   Role: paid consultant
   Project Topic: Development of a predictive model for onset timing of metabolic syndrome based on nutritional genetics/metabolites using multi-omics data
   Project Number: Inha University 73232-1 (Korean Research Foundation RS-2024-00340086)

Computational Tools and Databases

1. SciMiner (http://hurlab.med.und.edu/SciMiner/), a web-based literature mining tool.
   Recent updates: 9/10/2026
   Major revamping: SciMiner 2.0, a next-generation web-based literature mining system modernized from SciMiner, with improved architecture and expanded support for scalable biomedical text mining and automated knowledge extraction workflows.
   Recent updates: Ongoing development (2016-)
2. PubChemSR (https://sourceforge.net/projects/pubchemsr/), a standalone tool for searching and retrieving data from the NCBI PubChem databases.
   Recent updates: 12/18/2019 (release of new public version 3.6.4)
3. ChemFuse, a multi-database cheminformatics suite that unifies compound search, ADMET prediction, and cross-database identifier mapping across PubChem, ChEMBL, UniChem, BindingDB, Open Targets, and SureChEMBL, distributed as a Python package, R interface, command-line tool, and web dashboard.
   Recent updates: Ongoing development (2026-)
4. DNMKB2 and DPNKB (http://hurlab.med.und.edu/DNMKB2/; https://hurlab.med.und.edu/DPNKB/), online data repositories and analysis portals for diabetic neuropathy transcriptomics. DNMKB2 hosts 140 differentially expressed gene sets from 18 diabetic neuropathy gene expression profiling datasets; DPNKB, its revamped successor, additionally integrates genomic and clinical data for diabetic peripheral neuropathy research.
   Recent updates: 10/21/2018 (DNMKB2 version 2.1); 6/8/2026 (DPNKB)
5. VennDetail (http://hurlab.med.und.edu/VennDetail; https://github.com/hurlab/Venndetail/), is an R package that creates high-quality Venn-Pie charts and allows extraction of subset details from up to eight input sets. VennDetail has officially become a part of Bioconductor, an open-source software repository for bioinformatics.
   Recent updates: 2/10/2022 (release of version 1.10.0) (DOI: 10.18129/B9.bioc.VennDetail).
   Bioconductor version: https://www.bioconductor.org/packages/release/bioc/html/VennDetail.html
6. richR (http://hurlab.med.und.edu/richR; https://github.com/hurlab/richR/), an R package allowing functional enrichment analysis and visualization of gene sets obtained from high-throughput next-generation sequencing data.
   Recent updates: 4/20/2026
7. Tox21 Enricher (http://hurlab.med.und.edu/Tox21Enricher/), an online chemical enrichment analysis tool for the Tox21 toxicology screening platform.
   Recent updates: 4/2023
   R-version of Tox21 Enricher. https://github.com/hurlab/tox21enricher (version 2.4.0; 4/25/2023)
8. richCluster (https://github.com/hurlab/richCluster), a fast C++ agglomerative hierarchical clustering algorithm packaged into easily callable R functions, designed to help cluster biological 'terms' based on how similar genes are expressed in their activation.
   Recent updates: 9/17/2026 – version 2.0.1 officially available at CRAN
9. scGEN (https://github.com/hurlab/scGEN/), is a gene-aware embedding network designed to improve single-cell RNA-seq clustering by emphasizing challenging samples and preserving complex cellular relationships. By incorporating an adaptive weighting strategy and fine-tuning parameters for highly variable genes, scGEN enhances clustering accuracy, outperforming seven leading methods across multiple datasets.
   Recent updates: 10/5/2026 – version 1.0.1 (published at *Advanced Science*)
10. richStudio (http://hurlab.med.und.edu:3838/richStudio/), an R Shiny App for performing functional enrichment analysis as well as gene-based clustering analysis.
    Recent updates: 01/07/2026 (version 0.1.5) – ongoing development
11. AURORA (Asynchronous Unified Review Of Research Applications) (https://ignet.org/AURORA/; https://github.com/CTR-TRANSCEND/async-grant-review), a web platform for NIH-style asynchronous peer review of grant applications, supporting 1–9 criterion scoring, anonymous reviewer discussion, reviewer and administrator dashboards, and study-section report export.
    Recent updates: 10/13/2026 (version 0.9.0) – ongoing development
12. Ignet 2.0 and Vignet (https://ignet.org/ignet; https://ignet.org/vignet/), an ontology-driven, AI-assisted

biomedical knowledgebase and literature mining platform. Ignet 2.0 combines PubMed literature mining with BioBERT-based interaction scoring of gene-gene co-occurrence pairs, integrates INO, VO, HDO, and DrugBank, and supports gene interaction discovery, enrichment retrieval of scored GenePair evidence, and AI-assisted summarization (BioSummarAI). Vignet extends the platform with VO-guided vaccine exploration, VacPair interaction scoring, and vaccine-gene-drug-disease network construction (VacNet). A public REST API and Model Context Protocol (MCP) endpoint enable real-time integration.
Recent updates: Ongoing development (2025-)

13. VIOLIN (https://violinet.org/), the Vaccine Investigation and Online Information Network, a comprehensive vaccine knowledgebase integrating AI-driven literature analysis with Vaccine Ontology annotation.
Recent updates: Version 2.0 (2025)
14. Research PDF Renamer (https://hurlab.med.und.edu/pdf-renamer/, https://github.com/CTR-TRANSCEND/research-pdf-renamer), is a lightweight research productivity tool that automatically renames scientific PDF files into consistent, human-readable filenames using extracted metadata (e.g., title, authors, year, journal).
Recent updates: Ongoing development (2025-)
15. IRB Assistant (https://ignet.org/irb-assistant/; https://github.com/CTR-TRANSCEND/irb-assistant), an evidence-grounded LLM assistant that drafts UND/Sanford Health IRB forms (HRP-503, HRP-503c, and HRP-398) from uploaded study documents, presents each proposed answer with the supporting evidence for verification, and exports a completed DOCX for submission. Documents remain on the institutional server.
Recent updates: Ongoing development (2026-)
16. NDResHub (https://hurlab.med.und.edu/ndreshub/), the North Dakota Research Hub, an expertise and collaborator discovery system that matches a free-text research idea against publications and grants harvested from North Dakota institutions and returns the investigators whose recorded work is most similar, with the underlying evidence shown for each match.
Recent updates: Ongoing development (2026-)
17. SMHS Publication Atlas (https://hurlab.med.und.edu/publicationAtlas/), an interactive dashboard of UND School of Medicine & Health Sciences publications, collaborations, and research strengths, supporting collaborator discovery and identification of collaboration gaps.
Recent updates: Ongoing development (2026-)
18. AI Policy Compliance Checker (https://hurlab.med.und.edu/coai/; accessible within the UND network), an on-premises AI policy compliance checker that reviews research proposals, grant applications, and project documents against UND, NDUS, State of North Dakota, and federal AI governance guidelines, and returns findings by severity with citations to the source policies.
Recent updates: Ongoing development (2026-)

Conference Organization

1. The 6th Vaccines and Drug Ontology Studies (VDOS) workshop. Sep.13-15, 2017. Newcastle Upon Tyne, UK. (Co-organizer)
2. The 7th Vaccines and Drug Ontology Studies (VDOS) workshop. Aug. 7-10, 2018. Corvallis, Oregon, USA. (Co-organizer)
3. The 8th Vaccines and Drug Ontology Studies (VDOS) workshop. Jul. 29 – Aug. 2, 2019. Buffalo, New York. (Co-organizer)
4. The 9th Vaccines and Drug Ontology Studies (VDOS) workshop. Sep. 17, 2020. Virtual (Co-organizer)
5. The 10th Vaccines and Drug Ontology Studies (VDOS) workshop. Sep. 18, 2021. Virtual (Co-organizer)
6. The 13th International Conference of Biological Ontologies (ICBO) 2022, Sep. 25-28, 2022. Ann Arbor, MI and Virtual (Program Committee member)
7. The 11th Vaccines and Drug Ontology Studies (VDOS) workshop. Sep. 26, 2022. Ann Arbor, MI and Virtual (Co-organizer)
8. The 14th International Conference on Bioinformatics Models, Methods and Algorithms. BIOINFORMATICS 2023. Feb. 16-18, 2023, Lisbon, Portugal. (Program Committee member)

9. The 15th International Conference on Bioinformatics Models, Methods and Algorithms. BIOINFORMATICS 2024. Feb. 21-23, 2024, Rome, Italy (Program Committee member)
10. The 12th Vaccines and Drug Ontology Studies (VDOS) workshop. Aug. 29, 2023. University of Brasilia, Brasilia, DF, Brazil and Virtual (Co-organizer)
11. The second International Workshop on Pattern Recognition in Healthcare Analytics (PRHA), in conjunction with the 15th Asian Conference on Machine Learning. Istanbul, Turkey, November 11, 2023. (Program Committee member)
12. The 13th Vaccines and Drug Ontology Studies (VDOS) workshop. Jul. 22, 2024. University Twente, Enschede, The Netherlands. Hybrid (Co-organizer)
13. The third International Workshop on Pattern Recognition in Healthcare Analytics (PRHA), in conjunction with the 27th International Conference on Pattern Recognition (ICPR). Kolkata, India. December 01-05, 2024. (Program Committee member)
14. The 2nd VIOLIN 2.0 Annual U24 Retreat 2024. April 3, 2024. Virtual. (Organizer)
15. The 16th International Conference on Bioinformatics Models, Methods and Algorithms. BIOINFORMATICS 2025. Feb. 20-22, 2025, Porto, Portugal (Program Committee member)
16. The 3rd VIOLIN 2.0 Annual U24 Retreat 2025. April 9 & 16, 2025. Virtual. (Organizer)
17. The 14th International workshop on Vaccines and Drug Ontology Studies (VDOS). November 7, 2025. Virtual (Co-organizer)
18. The 17th International Conference on Bioinformatics Models, Methods and Algorithms. BIOINFORMATICS 2026. Mar. 2-4, 2026, Marbella, Spain (Program Committee member)
19. The 15th International Workshop on Vaccine and Drug Ontology Studies (VDOS-2026), co-located with ICBO 2026 and ISMB 2026. July 16, 2026. Washington Hilton, Washington, D.C. and Virtual (Co-organizer)
20. The 18th International Conference on Bioinformatics Models, Methods and Algorithms. BIOINFORMATICS 2027. February 19-21, 2027, Valletta, Malta (Program Committee member)

Professional Competition Participation

1. Text Analysis Conference (TAC) 2017 – Adverse Drug Reaction Extraction from Drug Labels (ADR) track. Our team, CONDL, participated in this text mining challenge, and **our best result ranked 4th out of 14 teams**. Two peer-reviewed papers were generated out of this challenge participation (Tiftikci et al, 2019 BMC Bioinformatics [PMID: 31865904] and Hur et al, 2018, JBMS [PMID: 29880031])
2. Food and Drug Administration (FDA) Adverse Drug Event Evaluation (ADR Eval) via MITRE aimed to develop an automatic text mining system to identify ADR mentions in drug labels. Our team, CONDL, participated in this challenge between November 2018 and February 2019. The performance evaluation results were released to the participants in October 2019. Among 23 submissions from 13 teams, **our best-performing submission achieved the best precision (accuracy)**.
3. Critical Assessment of Massive Data Analysis – CMap Drug Safety Challenge. July 13-14, 2020, as a part of the Intelligent Systems for Molecular Biology conference (virtual).
4. Pediatric COVID-19 Data Challenge, sponsored by BARDA. (Aug 19 - Dec 17, 2021; Participated)
5. Long COVID Computational Challenge, NIH (Oct-Dec, 2022; Participated; EBioMedicine [PMID: 39321500] co-author as "Long COVID Computational Challenge Participants; N3C Consortium")
6. BioASQ Task BioNNE: Nested NER in Russian and English. **The 2nd places for all three tracks** (Track1: Bilingual Nested NER; Track 2: English Nested NER; and Track 3: Russian Nested NER). Part of the CLEF 2024 Conference and Labs of the Evaluation Forum Information Access Evaluation meets Multilinguality, Multimodality, and Visualization 9-12 September 2024, Grenoble – France. One peer-reviewed conference proceedings paper was generated (https://ceur-ws.org/Vol-3740/paper-18.pdf)
7. Phase 2 PREPARE: Pioneering Research for Early Prediction of Alzheimer's and Related Dementias EUREKA Challenge. Participated in the Social Determinants Track to build advanced algorithms and analytic approaches for early prediction of AD/ADRD. October-December 2024.

Publications

Original Papers – Peer-reviewed (*: equal contribution, $: co-corresponding authorship)

1. Lee S, Hur J, Kim Y. A graph-theoretic modeling on GO space for biological interpretation of gene clusters. ***Bioinformatics***. 20(3):381-388, 2004. [PMID: 14960465]
2. Lee K, Hur J, Yoo J. Twin weight discordance and maternal weight gain in twin pregnancies. ***International Journal of Gynecology Obstetrics***. 96(3):176-180, 2007. [PMID: 17291507]
3. Hur J, Wild D. PubChemSR: A search and retrieval tool for PubChem. ***Chemistry Central Journal***. 2:11, 2008. [PMID: 18482452]
4. Hur J, Schuyler AD, States DJ, Feldman EL. SciMiner: Web-based literature mining tool for target identification and functional enrichment analysis. ***Bioinformatics***. 25(6):838-40, 2009. [PMID: 19188191]
5. Hur J, Sullivan KA, Schuyler AD, Hong Y, Pande M, States DJ, Jagadish HV, Feldman EL. Literature-based discovery of diabetes- and ROS-related targets. ***BMC Medical Genomics***. 2010 [PMID: 20979611]
6. Pande M, Hur J, Hong Y, Backus C, Hayes JM, Oh SS, Kretzler M, and Feldman EL. Transcriptional profiling of diabetic neuropathy in the BKS db/db mouse, a model of type 2 diabetes. ***Diabetes***. 2011 [PMID: 21617178]
7. Hur J, Xiang Z, Feldman EL, and He Y. Ontology-based Brucella vaccine literature indexing and systematic analysis of gene-vaccine association network. *BMC Immunology*. 2011 [PMID: 21871085]
8. Lee S, Hur J, Lee KJ. Pregnancy outcome and relationship between maternal weight gain and fetal birth weight in Korean pregnant women with hyperglycemia. ***Journal of Women's Medicine***, 2011;4(2):35-40 [Full text]
9. Kim MK, Hur J, Lee SY, Kim YL, Park KS, Park SW, and Lee KJ. Maternal obesity and associated risk of adverse pregnancy outcomes in women with hyperglycemia. ***Korean Journal of Obstetrics and Gynecology***. 2011;54(10):591-598 [Full text]
10. Hur J, Sullivan KA, Pande M, Hong Y, Sima AAF, Jagadish HV, Kretzler M, and Feldman EL. The identification of gene expression profiles associated with progression of human diabetic neuropathy. ***Brain***. 2011, Nov;134(Pt 11):3222-35 [PMID: 21926103]
11. Hur J*, Ozgur A*, Xiang Z, and He Y. Identification of fever and vaccine-associated gene interaction networks using ontology-based literature mining. ***Journal of Biomedical Semantics***. 2012, 3:18. [PMID: 23256563]
12. Dowling JJ, Arbogast S, Hur J, Waugh T, Nelson DD, McEvoy Anna, Marty I, Monnier N, Lunardi J, Brooks SV, Kuwada JY, and Ferreiro A. Oxidative Stress and Successful Antioxidant Treatment in RYR1-related Myopathies. ***Brain***. 2012; 135, 1115-1127. [PMID: 22418739]
13. Sims-Robinson C, Zhao S, Hur J, and Feldman EL. Central nervous system endoplasmic reticulum stress in a murine model of type 2 diabetes. ***Diabetologia***. 2012, 55:2276-2284. [PMID: 22581041]
14. Figueroa-Romero C*, Hur J*, Bender DE, Delaney CE, Cataldo MD, Smith AL, Yung R, Ruden DM, Callaghan BC, and Feldman EL. Identification of Epigenetically Altered Genes in Sporadic Amyotrophic Lateral Sclerosis. ***PLoS One***. 2012, 7:e52672. [PMID: 23300739]
15. Han J, Back SH, Hur J, Lin YH, Gildersleeve R, Shan J, et al. ER-stress-induced transcriptional regulation increases protein synthesis leading to cell death. ***Nature Cell Biology***. 2013 May;15(5):481-90 [PMID: 23624402]
16. Sims-Robinson C, Hur J, Hayes JM, Dauch JR, Keller PJ, Brooks SV, and Feldman EL. The role of oxidative stress in nervous system aging. ***PLoS One***. 2013 Jul 2;8(7):e68011. [PMID: 23844146]
17. Hur J, Sullivan KA, Callaghan BC, Pop-Busui R, and Feldman EL. Identification of factors associated with sural nerve regeneration and degeneration in diabetic neuropathy. ***Diabetes Care***. 2013, 2013 Dec;36(12):4043-9. [PMID: 24101696]
18. He Y, Racz R, Sayers S, Lin Y, Todd T, Hur J, Li X, Patel M, Zhao B, Chung M, Ostrow J, Sylora A, Dungarani P, Ulysse G, Kochhar K, Vidri B, Strait K, Jourdian GW, and Xiang Z. Updates on the VIOLIN Vaccine Database and Analysis System. ***Nucleic Acids Research***. 2014 Jan 1; 42(1): D1124-32 [PMID: 24259431]
19. Todd PK, Ackall FY, Hur J, Sharma K, Paulson HL, Dowling JJ. Transcriptional changes and developmental abnormalities in a Zebrafish model of Myotonic Dystrophy. ***Disease Models & Mechanisms***. 2014 Jan;7(1):143-55. [PMID: 24092878]
20. Feldman EL, Boulis NM, Hur J, Johe K, Rutkove SB, Federici T, Polak M, Bordeau J, Sakowski SA, and

Glass JD. Intraspinal neural stem cell transplantation in amyotrophic lateral sclerosis: phase 1 trial outcomes. ***Annals of Neurology***. 2014 [PMID: 24510776]

21. Waugh TA, Horstick E, Hur J, Jackson SW, Li X, and Dowling JJ. Fluoxetine prevents dystrophic changes in a zebrafish model of Duchenne muscular dystrophy. ***Human Molecular Genetics***. 2014 2014 Apr 23. [PMID: 24760771]
22. O'Brien PD, Hur J, Hayes JM, Lindblad CN, and Feldman EL. BTBR ob/ob mice as a novel diabetic neuropathy model: Neurological characterization and gene expression analyses. ***Neurobiology of Disease***. 2014 Oct 30;73C:348-355. [PMID: 25447227]
23. Hur J, Guo A, Loh W, Feldman EL, and Bai JP. Integrated systems pharmacology analysis of clinical drug-induced peripheral neuropathy. ***Clinical Pharmacology and Therapeutics: Pharmacometrics and Systems Pharmacology***. 2014 May 14;3:e114. [PMID: 24827872]
24. Hur J*, Liu Z*, Tong W, Laaksonen R, and Bai PF. Drug-Induced Rhabdomyolysis: from systems pharmacology network analysis to biochemical flux analysis. ***Chemical Research in Toxicology***. 2014 [PMID: 24422454]
25. Hur J*, Ozgur A*, Xiang Z, and He Y. Development and Application of an Interaction Network Ontology (INO) for Literature Mining of Vaccine-associated Gene-Gene Interactions. ***Journal of Biomedical Semantics***. 2015 Jan 6;6:2. [PMID: 25785184]
26. Chan WKB, Zhang H, Yang J, Brender JR, Hur J, Ozgur A, and Zhang Y. GLASS: a comprehensive database for experimentally-validated GPCR-ligand associations. ***Bioinformatics***. 2015 May 13. Pii: btv302 [PMID: 25971743]
27. Hur J[$], Zhao CS, and Bai JPF[$]. Systems Pharmacological Analysis of Drugs Inducing Stevens–Johnson Syndrome and Toxic Epidermal Necrolysis. ***Chemical Research in Toxicology***. 2015 May 18;28(5):927-34. [PMID: 25811541]
28. Hur J*, Dauch JR*, Hinder ML, Hayes JM, Backus C, Sakowski SA, and Feldman EL. The Metabolic Syndrome and Microvascular Complications in a Murine Model of Type 2 Diabetes. ***Diabetes***. 2015 Sep;64(9):3294-304. [PMID: 25979075]
29. O'Brien PD, Hur J, Robell NJ, Hayes JM, Sakowski SA, and Feldman EL. Gender-specific differences in diabetic neuropathy in BTBR ob/ob mice. ***Journal of Diabetic Complications***. 2015 Oct 3. [PMID: 26525588]
30. Cho EH, Hur J, and Lee KJ. Early gestational weight gain and the adverse pregnancy outcomes in Korean women. ***PLOS One***. 2015 Oct 14;10(10):e0140376. [PMID: 26465322]
31. Karadeniz I, Hur J[$], He Y[$], and Özgür A[$]. Literature Mining and Ontology based Analysis of Host-Brucella Gene-Gene Interaction Network. ***Frontiers Research Topics Microbiology***. 2015 Dec 9;6:1386. [PMID: 26696993]
32. Figueroa-Romero C*, Hur J*, Lunn JS, Paez-Colasante X, Bender DE, Yung R, Sakowski SA, Feldman EL. Expression of microRNAs in human post-mortem amyotrophic lateral sclerosis spinal cords provides insight into disease mechanisms. ***Molecular and Cellular Neuroscience***. 2015 Dec 17;71:34-45. [PMID: 26704906]
33. Guo A, Racz R, Hur J, Lin Y, Xiang Z, Zhao L, Rinder J, Jiang G, Zhu Q, and He Y. Ontology-based collection, representation and analysis of drug-associated neuropathy adverse events. ***Journal of Biomedical Semantics***. 2016 May 21;7:29. [PMID: 27213033]
34. Sas KM, Kayampilly P, Byun J, Nair V, Hinder LM, Hur J, Zhang H, Lin C, Qi NR, Michailidis G, Groop PH, Darshi M, Sharma K, Schelling JR, Sedor JR, Pop-Busui R, Weinberg JM, Soleimanpour SA, Abcouwer SF, Gardner TW, Burant CF, Feldman EL, Kretzler M, Brosius FC, and Pennathur S. Tissue-specific metabolic reprogramming drives nutrient flux in diabetic complications**.** ***JCI Insight***. 2016 Sep 22;1(15):e86976 [PMID: 27699244]
35. Hur J[$], O'Brien PD, Nair V, Hinder LM, McGregor BA, Jagadish HV, Kretzler M, Brosius FC, and Feldman EL[$]. Transcriptional networks of murine diabetic peripheral neuropathy and nephropathy: Common and distinct gene expression patterns. ***Diabetologia***. 2016 Mar 21 [PMID: 27000313]
36. Krishanan KC, Santhosh M, Alagarsamy J, Hur J, Nookala Suba, Norrby-Teglund A, and Kotb M. Genetic Architecture of Group A Streptococcal Necrotizing Soft Tissue Infections in the mouse. ***PLOS Pathogens***. 2016 Jul 11;12(7):e1005732. [PMID: 27399650]

37. Ozgur A*, Hur J*, and He Y. The Interaction Network Ontology-supported modeling and mining of complex interactions represented with multiple keywords in biomedical literature. ***BioData Mining***. 2016 Dec 19;9:41. [PMID: 28031747]
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39. Hur J$, Ozgur A, He Y. Ontology-based literature mining of E. coli vaccine-associated gene interaction networks. ***Journal of Biomedical Semantics***. 2017 Mar 14;8(1):12. [PMID: 28288685]
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41. Lee KJ, Hur J, Yang KS, Lee MK, and Lee SJ. Acute biophysical responses and the psychological effects of different types of forests in patients with metabolic syndrome. ***Environment and Behavior***. 2017 Mar 31. Doe: 10.1177/0013916517700957 [Full text]
42. Shin DY, Hur J, Cho EH, Chung HK, Shivappa N, Wirth M, Hebert J, and Lee KW. Pre-pregnancy Body Mass Index is Positively Associated with Dietary Inflammatory Index and C-Reactive Protein Concentrations during Pregnancy. ***Nutrients***. 2017 Apr 1;9(4). [PMID: 28368304]
43. Witt KL, Hsieh JH, Smith-Roe S, Xia M, Huang R, Auerbach SS, Hur J, Tice RR. Assessment of the DNA Damaging Potential of Environmental Chemicals Using a Quantitative High-Throughput Screening Approach to Measure p53 Activation. ***Environmental and Molecular Mutagenesis***. 2017 Aug;58(7):494-507. [PMID: 28714573]
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46. Hur J$, Ozgur A, He Y$. Ontology-based literature mining and class effect analysis of adverse drug reactions associated with neuropathy-inducing drugs. ***Journal of Biomedical Semantics***. 2018 Jun 7;9(1):17. [PMID: 29880031]
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49. Hur J$, Danes L, Hsieh JH, Krout D, McGregor BA, and Auerbach SS. Tox21 Enricher: Web-based Chemical and Functional Enrichment Analysis Tool for Tox21 Toxicity Screening Platform. ***Molecular Informatics***. 2018 May;37(5):e1700129. [PMID: 29377626]
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134. Huang F*, Hu D*, Dai Y*, Geng A, Guan R, Quan H, McGregor BA, Wang Z, Khan N, Zhang H, Zhang J$, Xia M, Gu X, Che D, Hur J$, Cui X, and Guo K$. scGEN: Leveraging an Adaptive Weighting Strategy for Challenging Cell Clustering in Single-Cell RNA-seq. ***Advanced Science***. 2026 Oct 11:e77746. doi: 10.1002/advs.77746. Online ahead of print. [PMID: 42860543] [PMCID: PMC13655258]

Reviews or Editorial – Peer-reviewed

1. Lunn JS, Sakowski SA, Hur J, Feldman EL. Stem cell technology for neurodegenerative diseases. ***Annals of Neurology***, 2011, DOI:10.1002/ana.22487 [PMID: 21905078]
2. Callaghan BC, Hur J, and Feldman EL. Diabetic Neuropathy: One disease or two? ***Current Opinions in Neurology***, 2012, 25:536-541 [PMID: 22892951]
3. Sakellaropoulos T, Hur J, Melas IN, Guo EY, Alexopoulos L, and Bai JPF. Computational Approaches to Accelerating Novel Medicine and Better Patient Care from Bedside to Benchtop. ***Advances In Protein Chemistry And Structural Biology***. 102, 147-179, (2016). [PMID: 26827605]
4. Bai JPF, Melas IN, Hur J, and Guo E. Advances in omics for informed pharmaceutical research and development in the era of systems medicine. ***Expert Opinion on Drug Discovery***. 2018 Jan;13(1):1-4. [PMID: 29073782]
5. Huffman A, Ong E, Hur J, D'Mello A, Tettelin H, He Y. COVID-19 vaccine design using reverse and structural vaccinology, ontology-based literature mining and machine learning. ***Brief Bioinform***. 2022 Jul 18;23(4):bbac190. [PMID: 35649389]
6. Eid SA, Rumora AE, Beirowski B, Bennett DL, Hur J, Savelieff MG, and Feldman EL. New perspective in diabetic neuropathy. ***Neuron***. 2023 May 19;S0896-6273(23)00345-8. [PMID: 37263266]
7. Goutman SA, Savelieff MG, Jang DG, Hur J, and Feldman EL. The amyotrophic lateral sclerosis exposome: recent advances and future directions. ***Nature Reviews Neurology***. 2023 Oct;19(10):617-634. [PMID: 37709948]

Editorial – Not peer-reviewed

1. Hur J[$], Tao C, and He Y. A 2018 workshop: vaccine and drug ontology studies (VDOS 2018). ***BMC Bioinformatics***. 2019 Dec 23;20(Suppl 21):705. [PMID: 31865905]
2. Hur J[$], Cao Z, Petrovsky N, Brusic V, Tao C, and He Y[$]. Editorial: Vaccine and Infectious Disease Informatics. Frontiers in Cellular and Infection Microbiology (In press)

Book Editing

1. Bai JPF and Hur J. Systems Medicine. ***Methods in Molecular Biology***. Springer. April 5th, 2022.

Book chapter

1. Melas IN, Sakellaropoulos T, Hur J, Messinis D, Guo EY, Alexopoulos LG, and Bai J.P.F., A computational platform and guide for acceleration of novel medicine and precision medicine. Methods in Molecular Biology. Methods in Molecular Biology. ***Bioinformatics in Drug Discovery*** 3rd edition. 2019 Edited by Richard S Larson and Tudor I Oprea. [PMID: 30848462]

Conference Proceedings – Peer-reviewed

1. Özgür A, Hur J[$], and He Y[$]. Extension of the Interaction Network Ontology for literature mining of gene-gene interaction networks from sentences with multiple interaction keywords. ***The Proceedings of the International Workshop on Biomedical Data Mining, Modeling, and Semantic Integration: A Promising Approach to Solving Unmet Medical Needs*** **(BDM2I 2015)**. Bethlehem, PA, USA. [Full text]
2. Guo A, Racz R, Hur J, Lin Y, Xiang Z, Zhao L, Jiang G, Zhu Q, Bai J, and He Y. Ontology-based collection, representation and analysis of drug-associated neuropathy adverse events. ***The proceedings of the International Conference of Biological Ontologies (ICBO) 2015 Vaccines and Drug Ontology Studies (VDOS) workshop***. [Full text]
3. Hur J[$], Ozgur A, Ong E, and He Y[$]. Ontology-based literature mining of E. coli vaccine-associated gene interaction networks. ***The proceedings of the International Conference of Biological Ontologies (ICBO) 2016 Vaccines and Drug Ontology Studies (VDOS) workshop***.
4. Hur J[$], Ozgur A, and He Y. Ontology-based NLP literature mining and analysis of adverse drug reactions associated with neuropathy-inducing drugs. ***The proceedings of the International Conference of Biological Ontologies (ICBO) 2017 Vaccines and Drug Ontology Studies (VDOS)*** *workshop*.
5. Tiftikci M, Ozgur A, He Y, and Hur J[$]. Machine learning-based identification and rule-based normalization of adverse drug reactions in drug labels. ***The proceedings of the International Conference of Biological Ontologies (ICBO) 2018 Vaccines and Drug Ontology Studies (VDOS) workshop.***
6. Hur J, Ozgur A, Ong E, Xiang Z, and He Y[$]. Ignet: A centrality- and ontology-based gene interaction network analysis system and its usage in vaccine-associated gene interaction study**.** ***The proceedings of the International Conference of Biological Ontologies (ICBO) 2019 Vaccines and Drug Ontology Studies workshop (VDOS-2019)***.
7. Liu Y, Chan KBW, Wang Z, Hur J, Xie J, Sun D, Handelman S, Sexton J, Yu H, and He Y. Development of the International Classification of Diseases Ontology (ICDO) and its application for COVID-19 diagnostic data analysis. *The 19th* ***International Conference on Bioinformatics***.Virtual. November 25-29, 2020.
8. Hur J, Huffman A, Basmaci M, Ong E, Ozgur A, and He Y. Literature-derived host-coronavirus gene-gene interaction network of SARS-CoV-2. ***The proceedings of the 11th International Conference of Biological Ontologies (ICBO) 2020 Vaccines and Drug Ontology Studies workshop (VDOS-2020).*** September 16 – 19, 2020. Virtual.
9. Basmaci M, He Y, Hur J[$], and Ozgur A[$]. BioBERT model for protein-protein interaction extraction from biomedical text with a COVID-19 case study. ***The proceedings of the 12th International Conference of Biological Ontologies (ICBO) 2021 Vaccines and Drug Ontology Studies workshop (VDOS-2021).***
10. Adeluwa T, Kim E, Hur J. GBMPSO: Hybrid Gradient Boosting Machines with Particle Swarm Optimization in Cell Segmentation Data. ***IEEE Symposium Series on Computational Intelligence*** (SSCI) (SSCI 2021). December 5-7, 2021. Orlando Florida USA
11. Basmaci M, He Y, Hur J[$], and Ozgur A[$]. Application of Interaction Network Ontology with BioBERT model to identifying protein-protein interactions from biomedical text. ***The proceedings of the 13th International Conference of Biological Ontologies (ICBO) 2022 Vaccines and Drug Ontology Studies workshop (VDOS-2022)***. September 26, 2022. Ann Arbor, MI, USA.
12. He Y, Yu H, Huffman A, Lin AY, Natale DA, Beverley J, Zheng L, Perl Y, Wang Z, Liu Y, Ong E, Wang Y, Huang P, Tran L, Du J, Shah Z, Shah E, Desai R, Huang HH, Tian Y, Merrell E, Duncan WD, Arabandi S, Schriml LM, Zheng J, Masci AM, Wang L, Liu H, Smaili FZ, Hoehndorf R, Pendlington ZM, Roncaglia P, Ye X, Xie J, Tang YW, Yang X, Peng S, Zhang L, Chen L, Hur J, Omenn GS, Athey B, and Smith B. A Comprehensive Update on CIDO: The Community-based Coronavirus Infectious Disease Ontology. ***The proceedings of the 13th International Conference on Biomedical Ontologies (ICBO-2022)***. September 25-28, 2022. Ann Arbor, MI, USA.
13. Hasin R*, Bansal B*, Çam NB, Zheng J, He Y, Özgür A, and Hur J. Nested named entity recognition using multilayer BERT-based model. ***The Proceedings of the Conference and Labs of the Evaluation Forum (CLEF) 2024***. BioASQ Lab. September 9-12, 2024. Grenoble, France. (https://ceur-ws.org/Vol-3740/paper-18.pdf) [PMID: 42023258]
14. Rehana H, Zheng J, Yeh L, Bansal B, Çam NB, Jemiyo C, McGregor B, Özgür A, He Y, and Hur J. Leveraging Large Language Models for Cancer Vaccine Adjuvant Name Extraction from Biomedical

Literature. The proceedings of the ***AMIA 2025 Annual Symposium*** Proceedings. November 15-19, 2025. Atlanta, GA. 2024;2024:1071-1080. [PMID: 41726492]

Conference Proceedings – Not peer-reviewed

1. Tiftikci M, He Y, Ozgur A, and Hur J[$]. Extracting adverse drug reactions using deep learning- and dictionary-based literature mining approaches. ***Proceedings of Text Analysis Conference*** *2017*. [Full text]
2. Rehana H, Zheng J, He Y, and Hur J. ChatGPT to identify Drug-Drug Interactions from Biomedical Texts. **The proceedings of the 14th International Conference of Biological Ontologies (ICBO) 2023 Vaccines and Drug Ontology Studies workshop (VDOS-2023)**. August 28-September 1, 2023. Brasilia, Brazil.
3. Çam NB*, Rehana H*, Zheng J, Bansan B, He Y, Hur J[$], and Ozgur A[$]. Ontology-based protein-protein interaction explanation using large language models. ***The 13th Vaccines and Drug Ontology Studies workshop (VDOS-2024)***. July 22, 2024. University of Twente, Enschede, The Netherlands. (VDOS virtual)
4. Rehana H, He Y, and Hur J[$]. Cancer Vaccine Adjuvant Name Recognition from Clinical Trial Data using Large Language Models. ***The 13th Vaccines and Drug Ontology Studies workshop (VDOS-2024)***. July 22, 2024. University of Twente, Enschede, The Netherlands. (VDOS was virtual)

Preprint (BioRxived) – Not peer-reviewed

1. de Anda-Jáuregui G, Espinal-Enriquez J, Hur J, Alcala-Corona SA, Ruiz-Azuara L, and Hernandez-Lemus E. Identification of Casiopeina II-gly secondary targets through a systems pharmacology approach. ***bioRxiv***, 2018. doi: https://doi.org/10.1101/327718 https://www.biorxiv.org/content/early/2018/05/21/327718
2. Liu Y, Chan W, Wang Z, Hur J, Xie J, Yu H, and He Y. Ontological and bioinformatic analysis of anti-coronavirus drugs and their implication for drug repurposing against COVID-19. ***Preprints*** 2020, 2020030413 (
3. Wang Z, Guo K, Gao P, Pu Q, Wu M[$], Huang C[$], and Hur J[$]. Identification of Repurposal Drugs and Adverse Drug Reactions for Various Courses of COVID-19 Based on Single-cell RNA Sequencing Data. ***arXiv***. https://arxiv.org/abs/2005.07856
4. Guo K[$], Yombo D, Schmit T, Wang Z, Ghosh S, Sathish V, Mathur R, Wu M, Hur J[$], and Khan N[$]. Cellular heterogeneity and molecular reprogramming of host response during influenza acute lung injury. ***bioRxiv***. https://www.biorxiv.org/content/10.1101/2021.08.05.455152v1
5. Dou JF, Bakulski KM, Guo K, Hur J, …, and Goutman SA. Cumulative genetic risk andC9orf72repeat status independently associate with ALS status in two case-control studies. ***medRxiv***. https://www.medrxiv.org/content/10.1101/2022.10.27.22281377v1
6. Guo K, Wang Z, Debnath T, Mehta H, Abrham E, Even Z, Rahman M, Da Costa AL, Jain S, Wang X, Hur J, Murugaiyan G, Ting AT, Brown-Borg H, Jurivich DA, Khan N, Mathur R. Mitochondrial Transcription Factor A Regulates Foxp3+ T Cell Mediated Maintenance of CD4+ T Cell Landscapes and Immunological Aging. ***bioRxiv*** 2022.03.08.483517; doi: https://doi.org/10.1101/2022.03.08.483517.
7. Rehana H[*], Çam NB[*], Basmaci M, Zheng J, Jemiyo C, He Y, Ozgur A[$], and Hur J[$]. Evaluation of GPT and BERT-based models on identifying protein-protein interactions in biomedical text. ***arXiv***. 2023. [PMID: 38764593]
8. Çam NB, Rehana H, Zheng J, Bansal B, He Y, Hur J[$], and Özgür A[$]. Ontology-based Protein-Protein Interaction Explanation Using Large Language Models. ***bioRxiv***. 2025. doi: https://doi.org/10.1101/2025.04.07.647599.
9. Huffman A, Yeh F-Y, Hur J, Zheng J, Masci AM, Wu G, Tao C, Athey B, and He Y. SEA CDM: Study-Experiment-Assay Common Data Model and Databases for Cross-Domain Data Integration and Analysis. ***bioRxiv***. 2025. [PMID: 40909744]
10. Zheng J, Lin AY, Huffman A, …, Hur J, Smith B, and He Y. VO: The Vaccine Ontology. ***bioRxiv***. 2025. [PMID: 40832256]
11. Rehana H, Zheng J, Yeh L, Bansal B, Çam NB, Jemiyo C, McGregor BA, Ozgur A, He Y, and Hur J. Cancer Vaccine Adjuvant Name Recognition from Biomedical Literature using Large Language Models. ***arXiv***. 2025. doi: https://arxiv.org/abs/2502.09659 [PMID: 40196147]

12. Navaeiseddighi Z, Wang Z, Guo K, Hasan S, Schmit T, Ahsan J, Mathur R, Hur J, and Khan N. NF-κB driven inflammation mediates loss of upper airway epithelial tolerance to Streptococcus pneumoniae during influenza co-infection. ***bioRxiv***. 2025. [PMID: 41279507]
13. Rehana H and Hur J[$]. Schema-Grounded Multitask Instruction Fine-tuning for Joint Biomedical Named Entity Recognition and Relation Extraction in Pharmacovigilance. ***bioRxiv***. 2026 Aug 6. doi: https://doi.org/10.64898/2026.07.30.741807
14. Asaduzzaman S, Bansal B, Combs P, Zhang J, Rehana H, McGregor B, He Y, and Hur J. Ignet 2.0 and Vignet: An Ontology-Driven Web Platform for Biomedical Gene Interaction Discovery and Visualization. ***bioRxiv***. 2026 Jun 6. doi: https://doi.org/10.64898/2026.06.02.729682

Manuscripts currently under peer review or in revision

1. Jemiyo C, McGregor BA, and Hur J. Risk Factors for Diabetic Peripheral Neuropathy in a Large, Diverse U.S. Cohort from the All of Us Research Program. ***Scientific Reports*** (Submitted on 8/15/2025; revised submission on 10/3/2025)
2. Navaeiseddighi Z[*], Wang Z[*], Guo K, Hasan SS, Ahsan J, Tripathi JK, Schmit T, Mathur R, Hur J, Khan N. NF-κB driven inflammation mediates loss of upper airway epithelial tolerance to Streptococcus pneumoniae during influenza co-infection. ***PLOS Pathogens*** (Resubmitted on 5/21/2026).
3. Eid SA, Guo K, Noureldein MH, Jang DG, Allouch AM[*], Miller CM[*], Kiriluk CP[*], Lentz W[*], Boutary S[*], Hayes JM, Rigan DM, Carter AD, Teener SJ, Patterson A, Tengan BW, Agongo J, Edwards JL, Pennathur S, Koubek EJ, Savelieff MG, Hur J[$], and Feldman EL[$]. Lifestyle Interventions Converge on Nerve Metabolic Remodeling to Reverse Obesity-Associated Peripheral Neuropathy. ***Experimental & Molecular Medicine*** (Submitted in 8/2026)
4. Navaeiseddighi Z*, Guo K*, Hasan SS*, Wang Z*, Mishra R, Schmit T, Ahsan J, Moser E, Hur J, Yount J, Mathur R, Zhou L, Khan N. TFAM Dependent Mitochondrial Fitness Limits $CD8^+$ T Cell Immunopathology and Sustains Protective Immunity during Viral Pneumonia. ***Science Advances*** (Submitted; manuscript ID aen2097).

Presentations

Invited or contributed talks (Oral)

1. Differential location analysis: a novel approach to detecting cellular responses to environmental changes. Center for Genomics and Bioinformatics Round Table, Indiana University. January 26, 2006. Bloomington, Indiana (Invited; Local)
2. Defining reactive oxidant genes in diabetes mellitus. Tools and Technology Seminar, University of Michigan. February 01, 2007. Ann Arbor, Michigan (Invited; Local)
3. Integration of Text Mining with Systems Biology Provides New Insight into the Pathogenesis of Diabetic Neuropathy. Department of Neurology Research Seminar, University of Michigan, March 17, 2011, Ann Arbor, Michigan (Invited; Local)
4. The identification of gene expression profiles predictive of human diabetic neuropathy. Peripheral Nerve Society Biennial Meeting, June 25-29, 2011. Potomac, Maryland (Contributed; International)
5. Ontology-based Enrichment Analysis of Gene-Gene Interaction Terms and Application on Literature-derived IFN-γ network. International Conference on Intelligent Systems for Molecular Biology – Bio-Ontologies Special Interest Group, July 14, 2012. Long Beach, California (Contributed; International)
6. Informatics tools for interacting with literature and chemical databases to build pharmacological networks of drug-induced neuropathy. 246th American Chemical Society National Meeting and Exposition. Graduate Student Research Symposium in Cheminformatics, Information Science, and Library Science. Sep 8, 2013. Indianapolis, Indiana (Invited; National)
7. Bioinformatics leads to potential therapeutic targets in ALS. Mayo Clinic Department of Neuroscience Seminar Series. December 20, 2013. Jacksonville, Florida. (Invited; Regional)
8. Glucose and Triglyceride Control Prevents Small but not Large Fiber Diabetic Neuropathy in a Murine Model of Type 2 Diabetes. American Diabetes Association 74th Scientific Sessions, June 13-17, 2014. San Francisco, California (Contributed; National)

9. Bioinformatics approaches for understanding the disease mechanisms of diabetic neuropathy and amyotrophic lateral sclerosis. Department of Basic Science, School of Medicine and Health Sciences, University of North Dakota. August 28, 2014. Grand Forks, North Dakota (Invited; Local)
10. Transcriptional networks of murine diabetic neuropathy and nephropathy: Common and distinct gene expression patterns. American Diabetes Association 75th Scientific Sessions, June 5-9, 2015. Boston, Massachusetts (Contributed; National)
11. Ontology-based literature mining of E. coli vaccine-associated gene interaction networks. The International Conference of Biological Ontologies (ICBO) 2016 Vaccines and Drug Ontology Studies (VDOS) workshop. August 1-4, 2016. Corvallis, Oregon. (Contributed; International).
12. Ignet: A centrality and INO-based web system for analyzing and visualizing literature-mined networks. International Conference of Biological Ontologies (ICBO) & BioCreative 2016. August 1-4, 2016. Corvallis, Oregon. (Contributed talk; International; Flash oral talk & Poster)
13. Ontology-based NLP literature mining and analysis of adverse drug reactions associated with neuropathy-inducing drugs. International Conference of Biological Ontologies (ICBO) 2017 Vaccines and Drug Ontology Studies (VDOS) workshop. September 13-15, 2017. Newcastle Upon Tyne, United Kingdom. (Contributed talk; International)
14. Diabetic Peripheral Neuropathy Knowledge-Base (DPNKB), an integrated web-based exploration and analysis platform for diabetic peripheral neuropathy gene expression data. University of Michigan, Department of Neurology. October 27, 2017. Ann Arbor, Michigan. (Invited talk; Local)
15. Integration of machine learning- and dictionary-based approach for identification of adverse drug reactions in drug labels. Text Analysis Conference (TAC) 2017. November 13-14. National Institute of Standards and Technology (NIST), Gaithersburg, MD. (Contributed talk; National)
16. Computational approaches for elucidating the pathogenic mechanisms of diabetic peripheral neuropathy and identifying small-molecule drugs for its treatment. Chonnam National University, School of Biological Sciences and Technology. March 28, 2018. Gwangju, Korea. (Invited talk; Local)
17. Systems biology for diabetic peripheral neuropathy research. United Tribes Technical College, Department of Environmental Sciences and Research. March 22, 2019. Bismarck, ND. (Invited talk; Regional)
18. Alpha-synuclein-mediated epigenomic modification of microglial neuroinflammation in Parkinson's disease. 2019 IDeA Central Region Conference. June 12-14, 2019. Oklahoma City, OK (Invited talk; Regional)
19. Ignet: A centrality- and ontology-based gene interaction network analysis system and its usage in vaccine-associated gene interaction study. The 8th International Workshop on Vaccine and Drug Ontology Studies (VDOS-2019). July 30-August 2, 2019. Buffalo, NY (Contributed talk; International)
20. Gene expression signature-based machine learning classifier of drug-induced liver injury. Critical Assessment of Massive Data Analysis (CAMDA) – CMap Drug Safety Challenge. 28th Intelligent Systems for Molecular Biology conference. July 13, 2020. (Contributed talk; International)
21. Host-coronavirus gene-gene interaction network of SARS-CoV-2 derived from biomedical literature. The 9th International Workshop on Vaccine and Drug Ontology Studies (VDOS-2020). September 19, 2020. Virtual (Contributed talk; International)
22. Bioinformatics approaches for finding cures for diabetic peripheral neuropathy. March 11, 2022. University of North Dakota, Biology Departmental Seminar (Invited talk; Local)
23. UND SMHS Computational Data Analysis Core (CDAC). HPI COBRE Research Seminar. May 10, 2022. University of North Dakota (Contributed talk; local)
24. Ontology-based literature mining analysis of molecular level interactions. The 11th International Workshop on Vaccine and Drug Ontology Studies (VDOS-2022). September 26, 2022. Ann Arbor, MI (Contributed talk; International)
25. Leveraging Large Language Model for Identifying DDI & PPI. The 1st Vaccine Informatics Working Group Meeting. September 8, 2023. Ann Arbor, MI (Invited; Regional)
26. Computational Data Analysis Core (CDAC) Projects. HPI COBRE Research Seminar. February 13, 2024. Grand Forks, ND (Local)

27. Leveraging Computational Approaches in Systems Medicine: Insights into Neuropathy, Diabetes, and Beyond. Computational Platforms to Accelerate Precision Medicine Workshop. May 4, 2024. Taipei, Taiwan. (Invited;)
28. Single-cell RNA-sequencing deconvolutes cellular and molecular responses to diet and exercise interventions in prediabetic neuropathy. 2024 Peripheral Nervous Society Annual Meeting. Montreal, Canada (June 22-25, 2024) (Contributed talk; International)
29. Integrating Genetics and Metabolomics in Amyotrophic Lateral Sclerosis (ALS): Pathways, Predictors, and Progress. US FDA. August 29, 2024. Silver Spring, Maryland. (Invited)
30. Systems Biology Approaches to Investigate Mechanisms of Amyotrophic Lateral Sclerosis, a.k.a. Lou Gehrig's Disease. Taipei Medical University workshop on integrative utilization of data science, system pharmacology and quantitative methods to inform rare disease drug development. September 13, 2024. Taipei, Taiwan. (Invited)
31. VIOLIN in the Era of AI: An Integrative Vaccine Knowledgebase and Analysis System. 2024 International Society for Vaccines. October 21-23, 2024. Seoul, Korea. (Contributed; International)
32. Unlocking Biomedical Knowledge with AI From Molecular Interactions to Vaccine Discovery. UND Artificial Intelligence Forum. September 9, 2025 (Virtual)
33. Unlocking Biomedical Knowledge with LLMs: Literature Mining for Protein Interactions and Vaccine Adjuvant Research. November 1, 2025. International Conference on Biological and Biomedical Ontology (ICBO) EAST 2025 International. Concurrent hybrid session (China, Japan, and Thailand). Keynote (Virtual)
34. From Biomedical Ontologies to Knowledge Discovery: Ontology-Driven Applications in Ignet 2.0 and Vignet. The 14th International Conference on Intelligent Biology and Medicine (ICIBM); Biological and Biomedical Ontology Workshop in the AI Era. Buffalo, NY. August 2-5, 2026 (Invited)
35. From Multi-Omics Data to Disease Insights: Bioinformatics Approaches for Biomedical Pattern Discovery. The 4th International Workshop on Pattern Recognition for Healthcare Analytics (PRHA 2026), in conjunction with the 28th International Conference on Pattern Recognition (ICPR 2026). August 22, 2026. Lyon, France. (Keynote)

Panel discussion

1. AI in research and education. University of North Dakota. Teaching Transformation & Development Academy. September 19, 2024.

Abstracts (Poster) [**Bold names are members of the Hur Lab**] (**2021 and after are listed**)

1. Henn R, Elzinga S, Guo K, Hur J, Feldman EL. Examining the role of obesity in hippocampal activation using single-cell RNA sequencing. American Neurology Association Conference. Oct 17-19, 2021. (Virtual; presented by Henn)
2. Figueroa-Romero C, Guo K, Noureldein M, Murdock BJ, Goutman SA, Hur J, Batterman S, Feldman EL. The gut microbiome: modulator of environmental insults in Amyotrophic Lateral Sclerosis. American Neurology Association Conference. Oct 17-19, 2021. (Virtual; presented by Figueroa-Romero)
3. Adeluwa T, Kim E, Hur J. GBMPSO: Hybrid Gradient Boosting Machines with Particle Swarm Optimization in Cell Segmentation Data. IEEE Symposium Series on Computational Intelligence (SSCI) (SSCI 2021). Dec 5-7, 2021. Orlando Florida USA. (Full oral presentation by Mr. **Adeluwa**, a graduate student in the lab)
4. Raihan MO, McGregor BA, Hur J, and Porter JE. Alpha-Synucleinopathy-Related Transcriptomic Changes in Microglia. 7th Epigenetics Symposium, March 15-16, 2022, Grand Forks, ND (Poster presented by Raihan)
5. McGregor BA, Raihan MO, Porter JE, and Hur J. Nanopore Methylation analysis of microglia isolated from a murine model of α-synucleinopathy. The 7th Epigenetics Symposium, March 15-16, 2022, Grand Forks, ND (Poster presented by **McGregor**)
6. Raihan MO, McGregor BA, Hur J, and Porter JE. Alpha-Synucleinopathy-Related Transcriptomic Changes in Microglia. The 42nd Frank Low Research Day, April 21, 2022, Grand Forks, ND (Poster presented by **Raihan**)

7. Guo K, Noureldein M, Elzinga S, Kim B, Savelieff M, Jacoby S, Hur J*, and Feldman EL*. Metabolic syndrome produces insulin resistance in the brain and impairs oligodendrocyte metabolic support of neurons: a novel mechanism for dementia. 2022 Caswell Diabetes Institute – metabolism, Obesity & Diabetes (CDI-MOD) Symposium with Frontiers in Diabetes Complications. May 11-12, 2022. Ann Arbor, MI (**Poster presented by Hur**)
8. McGregor BA, Hur J, and Roiko M. SARS-CoV-2 Whole Genome Sequencing and Microbiome Analysis. DaCCoTA Annual Conference. Aug 2022. (Poster presented by Roiko)
9. Raihan MO, McGregor BA, Hur J*, and Porter JE*. Exploring the Role of Microglia in α-Synucleinopathy phenotypes. Seminar for the Epigenetics COBRE group. September 21, 2021. (Oral presented by **Raihan and McGregor**)
10. McGregor BA and Hur J. The University of North Dakota Computational Data Analysis Core. The 7th annual Host-Pathogen Symposium. October 3-4, 2022. Grand Forks, ND (Poster presented by **McGregor**)
11. McGregor BA, Tyagi A, Hill M, Nausheen S, DeKumar B, Nechaev S, Parrello D, Hur J, and Roiko M. SARS-CoV-2 Whole Genome Sequencing and Metagenomic Analysis. The 7th annual Host-Pathogen Symposium. October 3-4, 2022. Grand Forks, ND (Poster presented by **McGregor**)
12. McGregor BA, Tyagi A, Hill M, Nausheen S, De Kumar B, Nechaev S, Parrello D, Hur J, and Roiko M. SARS-CoV-2 Whole Genome Sequencing and Metagenomic Analysis. American Society for Microbiology (ASM). June 15 - 19, 2023 | Houston, TX.
13. Rehana H, Cam NB, Basmaci M, Ozgur A, He Y, and Hur J. Evaluation of Generative Pre-Trained Transformer 3 (GPT-3) on identifying protein-protein interactions from biomedical text. University of North Dakota Graduate Research Achievement Day (GRAD), March 2-3, 2023. Grand Forks, ND (Poster presented by **Rehana**)
14. Aminu O, de Kumar B, and Hur J. Understanding Nanog's role in cell differentiation. University of North Dakota Graduate Research Achievement Day (GRAD), March 2-3, 2023. Grand Forks, ND (Poster presented by **Aminu; 2nd base presentation award**)
15. Aminu O, de Kumar B, and Hur J. Understanding Nanog's role in cell differentiation. University of North Dakota Frank Low Research Day, April 13, 2023. Grand Forks, ND (Poster presented by **Aminu**)
16. Amith M, Hur J, Komalsari R, Roberts K, and Tao C. Preliminary Word-Embedding Experiment to Explore Network Structures of Alzheimer's Medications from PubMed Literature. Computational Intelligence Methods for Bioinformatics and Biostatistics (CIBB) 2023. (Poster presented by Amith)
17. McGregor BA and Hur J. Computational Data Analysis Core (CDAC) at the University of North Dakota. University of North Dakota Host Pathogen Interaction COBRE Symposium. September 18-19, 2023. Grand Forks, North Dakota. (Poster presented by McGregor).
18. McGregor BA and Hur J. Computational Data Analysis Core (CDAC) at the University of North Dakota. University of North Dakota Biomedical Sciences Departmental Retreat. October 21, 2023. Grand Forks, North Dakota. (Poster presented by Hur J).
19. Rehana H, Zheng J, He Y, and Hur J. ChatGPT to identify drug-drug interactions from texts. The 12th Vaccines and Drug Ontology Studies (VDOS) workshop. Aug. 29th, 2023. University of Brasilia, Brasilia, DF, Brazil. (Oral presentation by **Rehana**)
20. Rehana H, Cam NB, Basmaci M, Ozgur A, He Y, and Hur J. Identifying Protein-Protein Interaction from Biomedical Text Using Generative Pre-trained Transformer. University of North Dakota Cybersecurity Awareness & Research Symposium (CARS) 2023. October 30-31, 2023. Grand Forks, ND (Poster presented by **Rehana, 1st place award**)
21. Jemiyo C, Afghah Z, Dawn D, Glenda L, Jurivich D, Johnson M, and Hur J. Analyzing Elderly Falls Risk Factors, with a Focus on Polypharmacy. 2023 University of North Dakota International Education Week. November 16, 2023. Grand Forks, North Dakota. (Poster presented by **Jemiyo**)
22. Guo K, Eid S, Feldman EL, and Hur J. Dietary Reversal and/or Exercise Correct Peripheral Neuropathy in Diet-Induced Obesity Mouse Model. Northern Plains Biological Symposium 2024. March 28, 2024. Grand Forks, North Dakota. (Poster presented by **Guo**)

23. Jemiyo C, Afghah Z, Dawn D, Glenda L, Jurivich D, Johnson M, and Hur J. Analyzing Elderly Falls Risk Factors, with a Focus on Polypharmacy. Northern Plains Biological Symposium 2024. March 28, 2024. Grand Forks, North Dakota. (Oral presentation by **Jemiyo**)
24. Huang F, Guo K, Baird L, Feldman EL, Goutman S, Ben M, and Hur J. Transcriptomics analysis with various tofacitinib dose treatments of amyotrophic lateral sclerosis mice. Northern Plains Biological Symposium 2024. March 28, 2024. (Poster presented by **Huang**)
25. Rehana H, Zheng J, He Y, and Hur J. Identifying Drug-Drug Interactions from Biomedical Texts using Large Language Models. Northern Plains Biological Symposium 2024. March 28, 2024. (Poster presented by **Rehana**)
26. Jemiyo C, Afghah Z, Dawn D, Glenda L, Jurivich D, Johnson M, and Hur J. Analyzing Elderly Falls Risk Factors, with a Focus on Polypharmacy. 44th Annual Frank Low Research Day 2024. April 11, 2024. Grand Forks, North Dakota. (Poster presented by **Jemiyo**)
27. Rehana H, Zheng J, He Y, and Hur J. Identifying Drug-Drug Interactions from Biomedical Texts using Large Language Models. University of North Dakota 2024 Frank Low Research Day. April 11, 2024. Grand Forks, North Dakota. (Poster presented by **Rehana**).
28. Guo K, Eid S, Feldman EL, and Hur J. Dietary Reversal and/or Exercise Correct Peripheral Neuropathy in Diet-Induced Obesity Mouse Model. 44th Annual Frank N. Low Research Day. April 11, 2024. Grand Forks, ND. (Poster presented by **Guo**)
29. Huang F, Guo K, Baird L, Feldman EL, Goutman S, Ben M, and Hur J. Transcriptomics analysis with various tofacitinib dose treatments of amyotrophic lateral sclerosis mice. 44th Annual Frank N. Low Research Day. April 11, 2024. Grand Forks, ND. (Poster presented by **Huang**)
30. Rehana H, Zheng J, He Y, and Hur J. Identifying Drug-Drug Interactions from Biomedical Texts using Large Language Models. 44th Annual Frank N. Low Research Day. April 11, 2024. Grand Forks, ND. (Poster presented by **Rehana**)
31. McGregor BA and Hur J. Capabilities of the Computational Data Analysis Core (CDAC) at the University of North Dakota. University of North Dakota Epigenetics COBRE Symposium. May 13-14, 2024. Grand Forks, North Dakota. (Poster presented by **McGregor**).
32. Huffman A, Hur J, Tao C, and He Y. VIOLIN In 2024: 15 Years of Vaccine Resource Development. AMIA 2024 Informatics Summit, March 2024. (Poster presented by Huffman)
33. Rehana H, Çam NB, Basmaci M, Özgür A, He Y, and Hur J. Leveraging Large Language Models for Extracting Protein-Protein Interactions from Biomedical Corpora. South Dakota State University 2024 Data Science Symposium. February 5-6, 2024. Sioux Falls, South Dakota. (Poster presented by **Rehana**; Travel award)
34. Rehana H, Çam NB, Basmaci M, Zheng J, Jemiyo C, He Y, Özgür A, and Hur J. Extracting Protein-Protein Interactions from Biomedical Literature using Large Language Models. University of North Dakota Graduate Research Achievement Day (GRAD), February 28-29, 2024. Grand Forks, ND (Poster presented by **Rehana**)
35. He Y, Huffman A, Zheng J, Tao C, and Hur J. VIOLIN in 2024: Comprehensive Vaccine Knowledgebase and Vaccine Data Standardization, Integration, and Analysis. American Society for Microbiology (ASM) MICROBE 2024. June 13-17, 2024, Atlanta (Poster presented by He)
36. Eid S, Guo K, Hur J, and Feldman EL. Single-cell RNA-sequencing deconvolutes cellular and molecular responses to diet and exercise interventions in prediabetic neuropathy. September 5-8, 2024. Rome, Italy. (Oral presentation by Feldman)
37. Rehana H, He Y, and Hur J. Cancer Vaccine Adjuvant Name Recognition from Clinical Trial Data using Large Language Models. The 13th Vaccines and Drug Ontology Studies (VDOS) workshop. Jul. 22, 2024. University Twente, Enschede, The Netherlands. (Oral presentation by **Rehana**)
38. Huffman A, Zheng J, Masci AM, Hur J, Tao C, and He Y. VS-MIS: A vaccine study minimal information standard and its ontological representation and applications. The 13th Vaccines and Drug Ontology Studies (VDOS) workshop. Jul. 22, 2024. University Twente, Enschede, The Netherlands. (Oral presentation by Huffman)

39. Çam NB, Rehana H, Zheng J, Bansal B, He Y, Hur J[$] and Özgür A[$]. Ontology-based protein-protein interaction explanation using large language models. The 13th Vaccines and Drug Ontology Studies (VDOS) workshop. Jul. 22, 2024. University Twente, Enschede, The Netherlands. (Oral presentation by Çam)
40. Rehana H*, Bansal B*, Çam NB, Zheng J, He Y, Özgür A, and Hur J. Nested Named Entity Recognition using Multilayer BERT-based Model. Conference and Labs of the Evaluation Forum (CLEF) 2024. September 9-12, 2024, Grenoble, France. (Presented by **Bansal**)
41. Elzinga S, Noureldein M, Guo K, Jang DG, Hayes J, Henn R, Webber-Davis I, Mendelson F, Parent R, Rigan D, Allouch A, Turfah A, Zhao L, Murphy G, Hur J, Feldman EL. Long-term high-fat feeding: Connecting metabolism, cognitive impairment, and altered microglial morphology. American Neurology Association Conference, Sept 14-17, 2024. Orlando, Florida (Poster presented by Elzinga)
42. McGregor BA and Hur J. Computational Data Analysis Core (CDAC) at the University of North Dakota. Host-Pathogen Interactions CoBRE Symposium. October 1, 2024. Grand Forks, ND. (Presented by **McGregor**)
43. Kim M, Lee S, Hur J[$], and Shin D[$]. Integrating DNA methylation and nutrition to predict metabolic syndrome: insights from the KoGES cohort. 2024 Korean Nutrition Society Annual Meeting. October 18, 2024. Seoul, Korea. (Poster by Kim**; awarded the 3rd best poster presentation**)
44. Lee S, Kim M, Hur J, and Shin D. Metabolomics identifies nutritional pathways associated with metabolic syndrome. 2024 Korean Nutrition Society Annual Meeting. October 18, 2024. Seoul, Korea. (Poster by Lee)
45. Rehana H, McGregor B, He Y, and Hur J. Cancer Vaccine Adjuvant Name Recognition from Clinical Trial Data using Large Language Models. The 2024 International Society for Vaccines (ISV) Annual Congress. October 21-23, 2024. Seoul, Korea. (Poster presentation by **Hur**)
46. Rehana H*, Bansal B*, Çam NB, Zheng J, He Y, Özgür A, and Hur J. Nested Named Entity Recognition using Multilayer BERT-based Model. ND EPSCoR State Conference. November 21, 2024. Grand Forks, ND. (Presented by **Bansal**)
47. Jemiyo C, Afghah Z, Dawn D, Glenda L, Jurivich D, Johnson M, and Hur J. Analyzing Elderly Falls Risk Factors, with a Focus on Polypharmacy. ND EPSCoR State Conference, November 21, 2024. Grand Forks, North Dakota. (Poster presented by **Jemiyo**)
48. Guo K, Elzinga S,Turfah A, Henn R, Webber-Davis I, Hayes J, Pacut C, Teener S, Carter A, Tigan D, Allouch A, Jang DG, Parent R, Glass E, Murphy G, Lentz S, Chen K, Zhao L, Hur J, Feldman E. Metabolic stress and age drive inflammation and cognitive decline in mice and humans. ND EPSCoR State Conference, Bio & Biomedical Computation Networking Seminar. November 20, 2024. Grand Forks, ND. (Presented by **Guo**)
49. Huang F, Guo K, Baird L, Feldman EL, Goutman S, Ben M, and Hur J. Transcriptomics analysis with various tofacitinib dose treatments of amyotrophic lateral sclerosis mice. ND EPSCoR State Conference, Bio & Biomedical Computation Networking Seminar. November 20, 2024. Grand Forks, ND. (Poster presented by **Huang**)
50. Bansal B, Combs P, Basmaci M, Ozgur A, He Y, Mathur R, Hur J. Ignet: A Web-Based Literature Mining System for Gene Interaction Networks. ND EPSCoR State Conference, Bio & Biomedical Computation Networking Seminar. November 20, 2024. Grand Forks, ND. (Presented by **Bansal**)
51. McGregor BA, Raihan MO, Brishti A, Hur J, Porter JE. Deciphering Motor Dysfunction and Microglial Activation in mThy1-α-Synuclein Mice: A Comprehensive Study of Behavioral, Gene Expression, and Methylation Changes. ND EPSCoR State Conference, Bio & Biomedical Computation Networking Seminar. November 21, 2024. Grand Forks, ND. (Presented by **McGregor**)
52. Rehana H, McGregor B, He Y, and Hur J. Recognizing Cancer Vaccine Adjuvant Names from Clinical Trial Data with Large Language Models. ND EPSCoR State Conference, Bio & Biomedical Computation Networking Seminar. November 21, 2024. Grand Forks, ND. (Presented by **Rehana**)
53. Elzinga S, Guo K, Hayes J, Pacut C, Rigan D, Teener S, Carter A, Jang DG, Park J, Hur J, Feldman E. Midlife Obesity and Prediabetes: Influence of cGAS/STING on Later Life Cognitive Impairment. American Physiology Summit 2025; April 24-27, 2025; Baltimore, MD. (Poster presentation by Elzinga)

54. Elzinga S, Guo K, Hayes J, Pacut C, Rigan D, Teener S, Webber-Davis I, Carter A, Park J, Jang D, Hur J, Feldman E. Sexually Dimorphic Microglial Senescence and Inflammatory Mechanisms in Obesity- and Prediabetes-Induced Cognitive Impairment. American Diabetes Association 85th Scientific Sessions; June 20-23, 2025; Chicago, IL. (Poster presentation by Elzinga)
55. Huffman A, Zheng J, Wu G, Cui L, Athey B, Hur J, Tao C, He Y. SEA-CDM: An Ontology-Based Study-Experiment-Assay Common Data Model for Interoperable Biomedical Experimental Data Standardization and Integration and Its Application in Vaccine Studies. NIH Data Repository & Knowledgebase Program Network Meeting; March 5-6, 2025; Rockville, MD. (Poster presentation by He, **Hur**)
56. He Y, Hur J, Tao C, Zheng J, Cui L, Wu G, Athey B, Huffman A. SEA-CDM: An Ontology-Based Study-Experiment-Assay Common Data Model for Standardizing and Integrating Biomedical Experimental Data with Application in Vaccine Studies. ISMB/ECCB 2025, BioData Resources Track (Evolution and Innovation); July 20-24, 2025; Liverpool, United Kingdom. (Oral presentation by He)
57. Rehana H, Zheng J, Yeh L, Bansal B, Cam NB, Jemiyo C, McGregor BA, Özgür A, He Y, Hur J. Identifying Cancer Vaccine Adjuvants in Biomedical Literature Using Large Language Models. Great Lakes Bioinformatics Conference (GLBIO 2025); May 12-15, 2025; Minneapolis, MN. (Oral presentation by **Rehana**)
58. Huang F, Hu D, Guan R, Quan H, McGregor BA, Hur J[$], Zhang J[$], Guo K[$]. scGEN: Adaptive Weighting Strategy for Challenging Cell Clustering in Single-Cell RNA-seq. Great Lakes Bioinformatics Conference (GLBIO 2025); May 12-15, 2025; Minneapolis, MN. (Oral presentation by **Huang**)
59. Bansal B, Guo K, Hur J, Mathur R. Mitochondrial TFAM Maintains Microglia-Neuron Crosstalk via CX3CR1 Signaling and Prevents Motor Neuron Degeneration. Frank Low Research Day 2025; April 22-23, 2025; Grand Forks, ND. (Poster presentation by **Bansal**)
60. Rehana H, Zheng J, Yeh L, Bansal B, Çam NB, Jemiyo C, McGregor BA, Özgür A, He Y, Hur J. Leveraging Large Language Models to Identify Vaccine Adjuvants from Biomedical Literature. Frank Low Research Day 2025; April 22-23, 2025; Grand Forks, ND. (Poster presentation by **Rehana**)
61. Jemiyo C, McGregor BA, Rehana H, Hur J. Racial and Geographic Disparities in the Health Impact of Adverse Childhood Experiences: Evidence from 33 U.S. States. Frank Low Research Day 2025; April 22-23, 2025; Grand Forks, ND. (Poster presentation by **Jemiyo**)
62. Hong S, Guo K, Kim J, Hur J. richCluster: An R Package for Cross-Dataset Clustering of Gene Enrichment Analyses. Frank Low Research Day 2025; April 22-23, 2025; Grand Forks, ND. (Poster presentation by **Hong**)
63. Huang F, Hu D, Guan R, Quan H, McGregor BA, Khan N, Feldman E, Hur J, Zhang J, Guo K. scGEN: Leveraging Adaptive Weighting Strategy for Challenging Cell Clustering in Single-Cell RNA-seq. Frank Low Research Day 2025; April 22-23, 2025; Grand Forks, ND. (Poster presentation by **Huang**)
64. Karimi B, Chen YL, Suzuki A, Hur J, Takaku M. Chromatin Structure and Transcriptional Program Across the Cell Cycle: Insights into Mitotic Bookmarking. Epigenetic Society Conference; October 2025; Chicago, IL. (Poster presentation by **Karimi**)
65. Karimi B, Suzuki A, Hur J, Takaku M. Dynamics of Gene Transcription and Chromatin Accessibility Across the Cell Cycle. Frank Low Research Day 2025; April 22-23, 2025; Grand Forks, ND. (Poster presentation by **Karimi**; **Best poster presentation award**)
66. Karimi B, Suzuki A, Hur J, Takaku M. Dynamics of Gene Transcription and Chromatin Accessibility Across the Cell Cycle. Epigenetics COBRE Annual Symposium; May 2025; Grand Forks, ND. (Poster presentation by **Karimi**)
67. McGregor BA, Raihan O, Guo K, Porter JE, Hur J. Midbrain Spatial Gene Expression in the Thy1-α-synuclein Mouse Model of Parkinson's Disease. Epigenetics COBRE Annual Symposium; May 2025; Grand Forks, ND. (Oral presentation by **McGregor**)
68. McGregor BA, Raihan O, Guo K, Porter JE, Hur J. Midbrain Spatial Gene Expression in the Thy1-α-synuclein Mouse Model of Parkinson's Disease. Host-Pathogen Interaction Research Meeting, University of North Dakota School of Medicine and Health Sciences; July 2025; Grand Forks, ND. (Poster presentation by **McGregor**)

69. Shabb JB, Hur J. Undergraduate Biochemistry Course Outcomes as Predictors of Medical College Admissions Test Performance. ASBMB Transforming Undergraduate Education in the Molecular Life Sciences (TUEMLS); July 24-27, 2025; St. Paul, MN. (Poster presentation by Shabb)
70. Zheng J, Davydov A, Qi Y, Li X, Zhang X, Manuel W, Lin T, Liu L, Abeysinghe R, Hu J, Zheng Y, Hur K, He A, Pan Y, Khan A, Ostropolets A, Masci AM, Hur J, Cui L, Smith B, He Y. Improvement of Vaccine Representation in OHDSI Standardized Vocabularies Using Vaccine Ontology. International Conference on Biological and Biomedical Ontology (ICBO 2025); November 9-11, 2025; Virtual. (Oral presentation by Zheng)
71. Huffman A, Zheng J, Masci AM, Hur J, Cui T, He Y. Ontological Modeling of the SEA-CDM and Its Applications for the Vaccine Domain. International Conference on Biological and Biomedical Ontology (ICBO 2025), Short Talks; November 9-11, 2025; Virtual. (Oral presentation by Huffman)
72. Rehana H, Zheng J, Hur J[$], He Y[$]. PICO/PECO-Guided Large Language Model Extraction and Ontological Modeling of Structured Occupational Safety and Health Evidence from Biomedical Literature. International Conference on Biological and Biomedical Ontology (ICBO 2025); November 9-11, 2025; Virtual. (**Oral** presentation by **Rehana**)
73. He A*, Hur K*, Li X, Zheng J, Hur J[$], He Y[$]. Updated Profiling of COVID-19 Vaccine Adverse Events Using VAERS Case Reports. International Conference on Biological and Biomedical Ontology (ICBO 2025); November 9-11, 2025; Virtual. (Oral presentation by He, Hur)
74. McGregor BA, Raihan MD, Guo K, Porter JE, Hur J. Midbrain Spatial Gene Expression in the Thy1-α-synuclein Mouse Model of Parkinson's Disease. Neuroscience 2025 (SfN25); November 15-19, 2025; San Diego, CA. (Poster presentation by **McGregor**)
75. Rehana H, Zheng J, Yeh L, Oğuzoğlu B, Özgür A, He Y, Hur J. Automated Extraction and Classification of Vaccine Adjuvant Mechanisms Using Large Language Models. Vaccine and Drug Ontology Studies (VDOS) Workshop 2025; November 7, 2025; Virtual. (Oral presentation by **Rehana**)
76. Rehana H, Zheng J, Yeh L, Bansal B, Çam NB, Jemiyo C, McGregor BA, Özgür A, He Y, Hur J. Cancer Vaccine Adjuvant Name Recognition from Biomedical Literature Using Large Language Models. AMIA 2025 Annual Symposium Proceedings; November 15-19, 2025; Atlanta, GA. (Oral presentation by **Rehana**)
77. Shabb JB and Hur J. Undergraduate Premedical Course Outcomes as Predictors of Medical College Admissions Test Performance. Academic Medicine (AAMC) (submitted in 12/2025)
78. Rehana H, He Y, and Hur J. Evidence-linked Extraction of Vaccine Adjuvants from Infectious Disease Literature Using Finetuned Large Language Models. American Society of Microbiology (ASM) Microbe 2026; June 4-7, 2026; Washington, D.C. (Poster presented by **Hur**)
79. Monickaraj J, Rehana H, Bernardi A, Zheng Y, Lin T, Liu L, Madireddi A, Yeh L, Zheng J, Hur J, and He Y. Vaxjo 2.0: A Web-based Vaccine Adjuvant and Adjuvant Mechanism Knowledgebase Powered by Ontology and Large Language Model. American Society of Microbiology (ASM) Microbe 2026; June 4–7, 2026; Washington, D.C. (Poster presentation by He)
80. Oğuzoğlu B, Rehana H, Zheng J, Asaduzzaman S, Yeh L, He Y[$], Özgür A[$], and Hur J[$]. Enhancing Annotation Reliability for Protein-Protein Interactions: An Iterative Human and AI Validation Study on BioInfer. ***The 15th International Workshop on Vaccine and Drug Ontology Studies (VDOS-2026)***, co-located with ICBO 2026 and ISMB 2026. July 16, 2026. Washington Hilton, Washington, D.C. (Short paper; Oral presentation by Oğuzoğlu)
81. Asaduzzaman S, Bansal B, Combs P, Zhang J, Rehana H, McGregor B, He Y[$], and Hur J[$]. Ignet 2.0 and Vignet: An Ontology-Driven Web Platform for Biomedical Gene Interaction Discovery and Visualization. *The 15th International Workshop on Vaccine and Drug Ontology Studies (VDOS-2026)*, co-located with ICBO 2026 and ISMB 2026. July 16, 2026. Washington Hilton, Washington, D.C. (Full paper; Oral presentation by **Asaduzzaman**)
82. Rehana H and Hur J[$]. Schema-Grounded Multitask Instruction Fine-tuning for Joint Biomedical Named Entity Recognition and Relation Extraction in Pharmacovigilance. *The 15th International Workshop on Vaccine and Drug Ontology Studies (VDOS-2026)*, co-located with ICBO 2026 and ISMB 2026. July 16, 2026. Washington Hilton, Washington, D.C. (Full paper; Oral presentation by **Rehana**)

83. He Y, Zheng J, Huffman A, Yeh FY, Li J, Wu G, Masci AM, Smith B, Hur J, and Tao C. RECIVax: Response Evaluation Criteria for Infectious Disease Vaccines and their Ontological Representation. *The 15th International Workshop on Vaccine and Drug Ontology Studies (VDOS-2026)*, co-located with ICBO 2026 and ISMB 2026. July 16, 2026. Washington Hilton, Washington, D.C. (Abstract; Oral presentation by He)
84. Rehana H and Hur J. A Multimodal Artificial Intelligence Framework for Literature-Grounded Vascular Access Complication Prediction in Transcatheter Aortic Valve Replacement. TRANSCEND Annual Symposium 2026; May 20, 2026; Grand Forks, ND. (Poster presentation by **Rehana**)
85. Rehana H and Hur J. CO-PICO/PECO Framework for Occupational Safety and Health Evidence Extraction. Frank Low Research Day 2026; April 13-14, 2026; Grand Forks, ND. (Poster presentation by **Rehana**)
86. Asaduzzaman S, Rehana H, McGregor BA, Hur J. Morphology-Guided Spatial Transcriptomic Upscaling via Pathway-Encoded Intermediate Representations in Colorectal Cancer. Intelligent Systems for Molecular Biology (ISMB) 2026; July 2026. (Late-breaking poster presentation by **Asaduzzaman**)
87. Rehana H, Zheng J, He Y, Hur J. CO-PICO/PECO: An Occupational Condition-based PICO/PECO Framework for Structuring Occupational Safety and Health Evidence using Generative Pretrained Transformers. International Conference on Intelligent Biology and Medicine (ICIBM) 2026; August 1-8, 2026. (Oral presentation by **Rehana**; ICIBM travel award recipient)
88. Asaduzzaman S, Rehana H, McGregor BA, Hur J. SCALE-ST: Multi-Scale Learning for Histology-Based Prediction of Spatial Gene Expression. International Conference on Intelligent Biology and Medicine (ICIBM) 2026; August 1-8, 2026. (Poster presented by **Asaduzzaman**)
89. Rehana H, He Y, Hur J. Evidence-Grounded Evaluation of Fine-Tuned Large Language Models for Vaccine Adjuvant Extraction from Infectious Disease Literature. AMIA 2026 Annual Symposium. Dallas, Texas. November 7-11, 2026 (To be presented as a poster by **Hur**)